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ATARI USER

Vol. 4 No. 6 October 1988 £1.25



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REVIEWS

Rampage, Quartet Gold, Matta Blatta, Extirpator, + Star LC-10 colour printer

£500 of Sony sound equipment must be won

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These two exciting compilations bring together some of the very best listings from the pages of *Atari User*.

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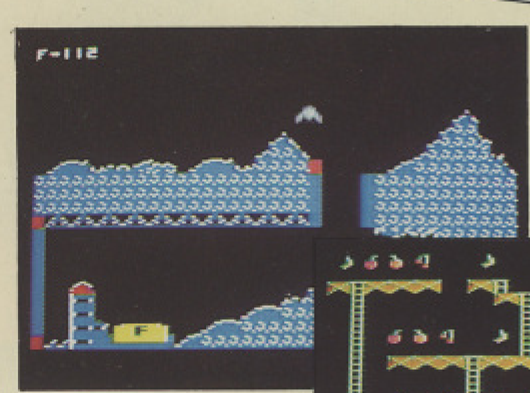
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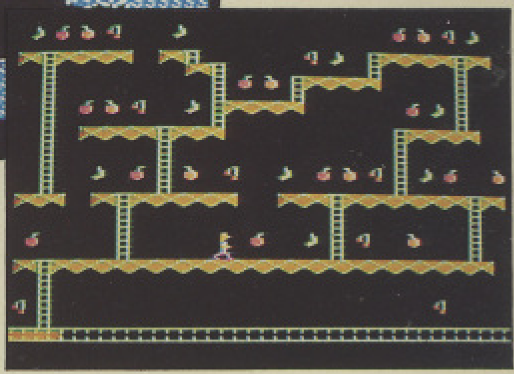
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PLUS the latest Get It Right! program to help you correctly type in listings in Atari User.

Vol. 1 (For details of the new Vol. 2 see page 52)



Frank the Fruit Fiend



Spacemaze

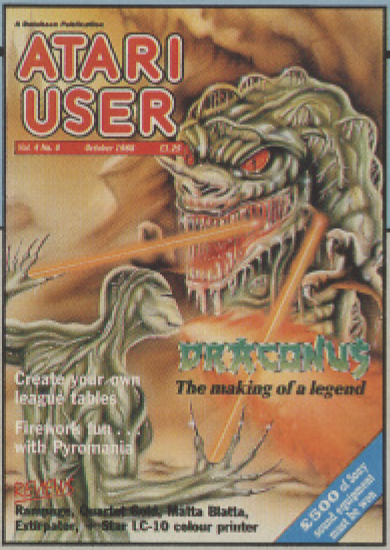
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Vol. 4 No. 6 October 1988

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Contents





Get it right! II

All major listings in this issue are accompanied by checksums to help overcome typing mistakes. For full details of how they work, see the article on page 36 of the July 1988 issue of *Atari User*.

DRACONUS



PRIORITY ORDER FORM

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ATARI USER NEWS REVIEW

New US products are on their way

ANOTHER batch of important Atari 8 bit products have been announced by US developer Reeve Software (0101 312-393 2317).

News Station brings some powerful page layout capabilities to the XL/XE micros. It allows the user to combine graphics and text and print them out. Price $29.95.

News Station Companion includes a plate manipulator to expand and centre News Station plates, an Ascii converter, Koala picture converter for selecting part of a picture, and News Station Librarian which allows pages to be compressed to save disc space. Price $29.95.

Publishing Pro is the first object oriented desktop publisher available for Atari 8 bit micros. It allows users to create an entire page at once using columns, headers and icons, and is compatible with Ascii files, Print Shop icons and News Station. Price $39.95.

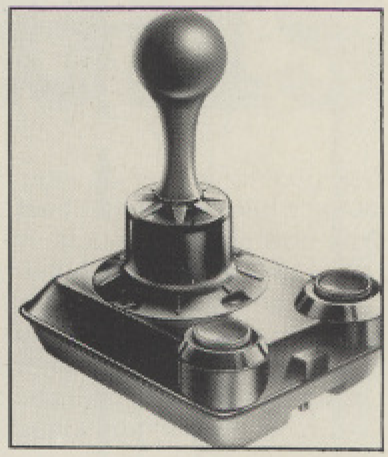
Business Manager 3.0 – a complete accounts receivable business package also prints statements, mailing labels and invoices. The program is entirely icon-based, tracks an unlimited number of customers and takes advantage of two disc drives and the extra 64k of memory in an Atari 130XE. Price $49.95.

Super ReeveKey is a CX85 keypad handler that will allow you to use your keyboard with most commercial software including SynCalc, Your Personal Net Worth, and others. Also included is a keypad customiser that gives complete flexibility in designing new keypad layouts.

Keys can be defined to represent up to 10 characters. Price $19.95.

Ditto XL – a powerful backup utility – will duplicate most un-protected commercial software without using any hardware. It is completely software based and will work with any disc drives. Price $34.95.

Rhythmizer is a sound synthesis program intended to simulate a drum set, but which can be customised to imitate many other instruments. Included are sound and rhythm editors. Price $24.95.



High scores the aim

A NEW arcade-quality joystick offering eight micro switches – and a range of features for even the most difficult of computer games – is being marketed by Compumart (0509 610444).

The Micro Blaster, manufactured under exclusive licence for Replay, is ergonomically designed in red and black with non-slip rubber feet.

The eight micro switches ensure maximum efficiency and it has a switchable single or rapid fire button for high score games.

A 1.4m cable ensures the player can take up more positions. Price £12.95.

Business looks up

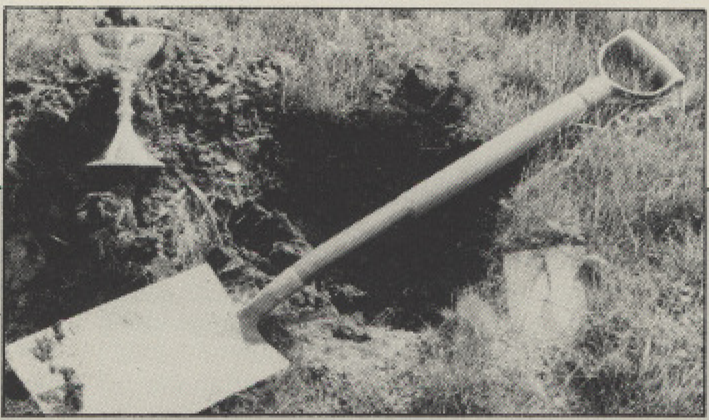
AN award-winning all-in-one, fully integrated business package from America for Atari 8 bit machines has been launched here by Computerhouse (01-731 1276).

Called Turbobase, it features three relational databases, word processor, spreadsheet, accounts system and report generator.

It has open invoicing, inventory/stock control, payroll, flexible mailing and file management, along with complete system error checking.

"And it's easier to use than dBase, Rbase or Lotus", says Computerhouse senior partner John May.

It comes with a 700 page manual including a quick course and cookbook. Price £119 in 40 column format, £129 in 80 column format.



Join the treasure hunt

ATARI users have been invited to take part in a treasure hunt to find the secret hiding place of a £5,000 replica of the legendary Holy Grail.

The nationwide quest has been organised by Mandarin Software (0625 878888) to mark the launch of Lancelot – a graphic adventure game based on the legend of King Arthur.

Hand-crafted from sterling silver, and gilded inside with 22 carat gold, the 7in high goblet is encrusted with semi-precious stones. It is hidden at a secret location somewhere in the UK.

To find the prize, entrants will have to survive a two-stage contest based on clues contained in the new three-adventure Lancelot package.

Contest creator and Arthurian expert Pete Austin said: "All people need to do is study the Lancelot game carefully and the clues – plus their answers – will become obvious". Price £14.95.

Cut-price games

A NEW software club has been started which promises quality games at half-price for Atari 8 bit users.

Called Special Reserve (0279 726585), it claims to be able to offer the lowest overall prices for entertainment software.

Annual membership costs £4 and includes three issues of the Special Reserve buyer's guide, new release updates with each game bought, a folder and membership card complete with privilege ordering number.

One of the special introductory offers is a full set of clues to the Mandarin Software games Time & Magik and Lancelot.

RS-232 –

ANDRE WILLEY explores the mysteries behind computer talk

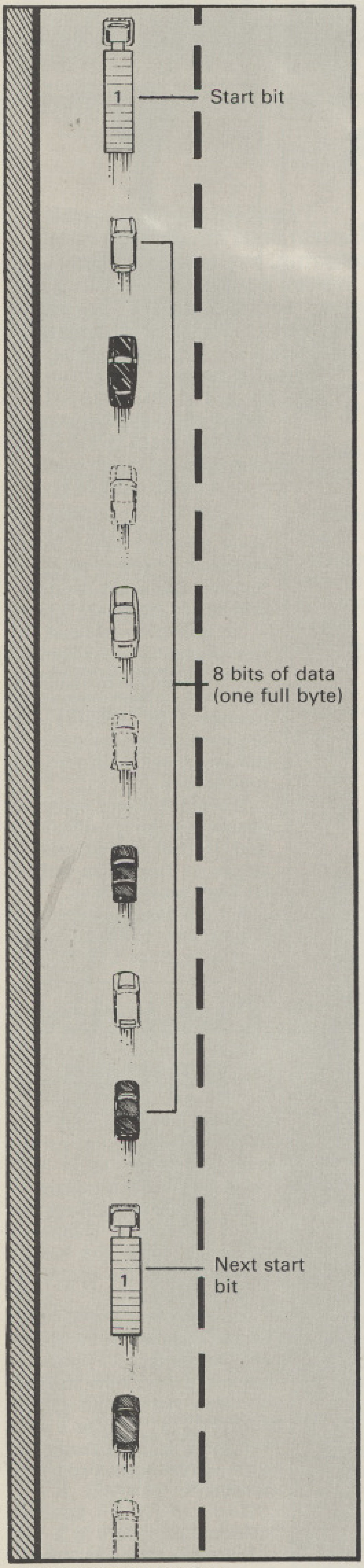


Figure I: A serial interface

MOST people are familiar with the terms Centronics and RS-232, and many will even know that the first is a parallel system of transferring information while the latter uses a serial system. But what is the difference between the two types of interface – and why do we need both systems?

Well, whichever one is in use at the time, the aim is very simple – to transfer computerised information from point A to point B as quickly and efficiently as possible. In computer terms, each individual character to be sent is called a byte, and it is stored internally as a pattern of eight switches known as bits.

Some of these bits will be switched on and others will be off, and to transfer any information between a computer and devices such as printers or modems it is necessary to transmit these patterns down some form of connecting cable. To do this, each bit is converted into a short pulse of electricity – normally five volts for a 1 bit and zero volts for a 0 bit.

Imagine for a moment that each single bit-pulse of data within a byte is represented as a car travelling along a main road between two cities. As we would ideally like to send our eight car-bits down the road simultaneously it would seem highly logical to build an eight-lane motorway so that each car could have a clear lane of its own. Thus each car could drive alongside – or parallel to – the other seven vehicles making up a full byte, and the journey would be a fast and smooth one.

This is fine in theory, of course, but it would be rather impractical to construct eight-lane motorways all over the country, so for longer journeys we might expect to find ourselves driving along ordinary main roads with just one lane in either direction. In that case our eight cars must follow each other nose-to-tail the whole way, and the journey would take considerably longer.

This example shows how a single byte of data – or eight cars, whichever you prefer – is passed between two locations, but real-life data transfer is complicated by the fact that you rarely want to transfer a single byte on its own. More often a stream of bytes will be sent – such as printing out a full document on your word processor, or downloading a bulletin board file via a modem.

If you are using a parallel interface, such as our eight-lane motorway, there is no problem – all you need to do is send each row of eight cars down the road after the previous one has left. When they reach the other end each row, or byte, of eight cars will still be driving side-by-side, and the next byte will follow straight after.

The problem occurs when using a serial interface – such as our RS-232 single-lane road. If you send another set of eight cars down the road immediately after the first, followed by another and another after that, then there is no simple way of telling where one block of eight finishes and the next begins.

This dilemma is prevented by sending out another vehicle, say a large lorry, before each group of eight cars. Once all the vehicles reach the other end of the road they will still be in the same pattern: One lorry, eight cars, one lorry, eight cars, one lorry, eight cars and so on. In computer terms, these lorries are called start bits because they indicate where one particular byte of data starts (see Figure I).

To make our example completely true to the digital world of computers we will need to make one other alteration. Since a computer can only deal with bits of data which are either on or off – that is, voltage present or no voltage – we should really think of our roads as containing cars and spaces the same length as a car, rather than two different types of car.

Eight-lane traffic

In the parallel motorway example, a byte such as 10000001 would have a car in the outer lane, empty spaces in the middle six lanes, and another car in the inner lane. As long as every car on the road, including those in the row behind, travel at the same speed they should arrive in the same pattern.

In order to tell the computer at what speed the information is being sent, an extra signal line known as a strobe is used to provide extra synchronisation pulses. This can be thought of as

a serial in 8 bits

a line of extra cars driving down the hard shoulder of our motorway, always running alongside each main row of cars. (see Figure II).

If you think about it, this system also gets around another possible problem – that of how to detect zero information. Now that we are dealing with cars and spaces instead of just cars it would be quite possible to mistake a row containing ONLY spaces for the gap that occurs between two rows. The extra set of cars on the hard shoulder means that we always know the difference between an empty row and a gap.

One way system

In a serial system, where we are dealing with a single lane only, speed becomes even more important since we have no hard shoulder available for sync information. What happens instead is that the speed of our car-bits is very carefully regulated so that we know that there should be, for example, one along every five seconds. After the start bit – or lorry in our example – has arrived we know that either a car or a space will be in position for checking once every five seconds.

The speed of the bits is known as the baud rate and basically refers to the number of bits which are sent out every second – so 300 baud refers to a data rate of 300 bits per second. This count includes any start and stop bits (normally two in total), so 10 bits can convey one full byte of data – thus giving a data transfer rate of about 30 characters per second at 300 baud.

To avoid any congestion on the line, and because the receiving end may not be able to handle data as quickly as you can send it, both parallel and serial interfaces allow a system akin to traffic lights in order to tell the computer when to start and stop sending information.

When the lights are at red – indicating the peripheral is currently busy processing and can't accept any more data – the computer will twiddle its thumbs until the lights go green again. This is referred to as *handshaking*.

As you will probably have realised by now, parallel interfaces are very much simpler than serial, but require many more wires for the data to be sent along. This is why the Centronics parallel system is more often used for short distances – say from the computer to a printer, and the RS-232 serial system is used for longer range communications – either from room to room or even, by phone, to anywhere in the world.

Can you imagine having to use eight phone lines to send a message by modem? Well that is what would be needed if we were to design a parallel interface for telephone use. The layout used on a Centronics connector is shown in Figure III. You will recognise the eight data lines as the eight lanes of traffic in our example, and the strobe as the hard shoulder. The Busy and Fault lines work like traffic lights.

The Busy signal goes to red to indicate that the printer can't take any more information for the moment, while the Fault signal is just the opposite and must always be switched to

Turn to Page 8 ►

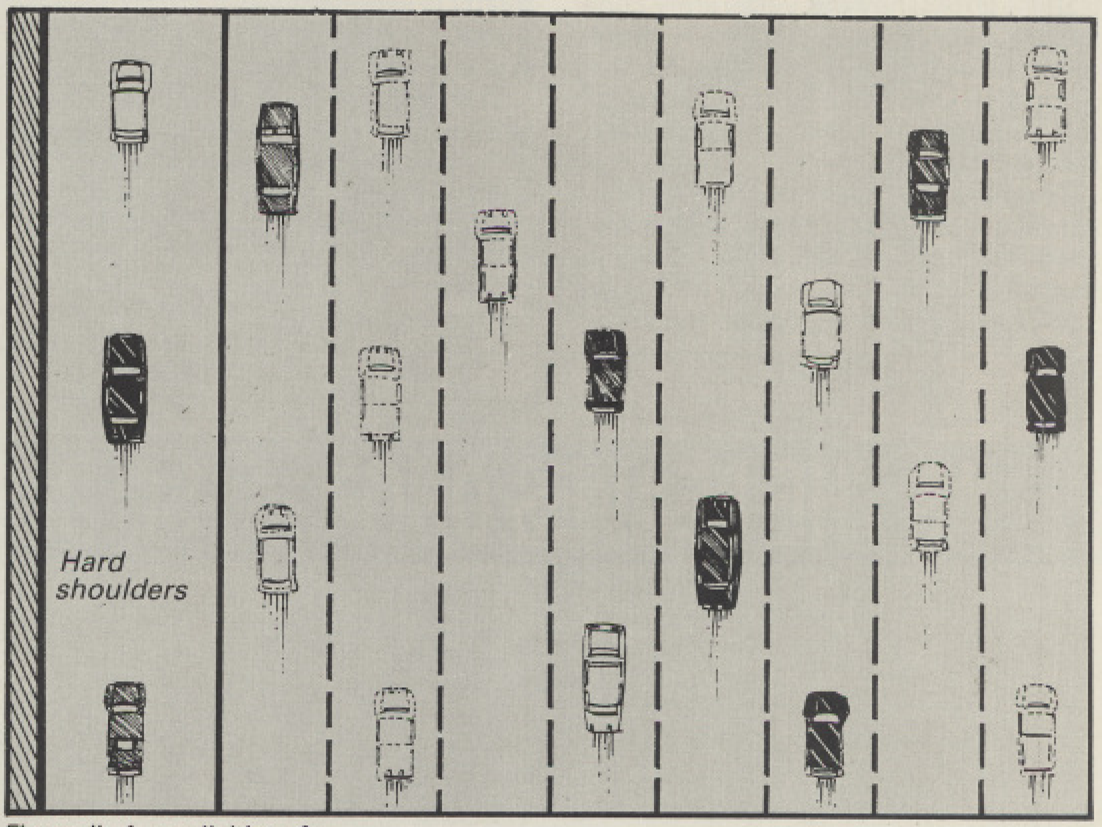


Figure II: A parallel interface

Pin No.	Function
1	Strobe (Sync)
2	Data bit 1
3	Data bit 2
4	Data bit 3
5	Data bit 4
6	Data bit 5
7	Data bit 6
8	Data bit 7
9	Data bit 8
11	Busy
16	Ground
32	Fault

Pin No.	Function
2	Data Out
3	Data In
4	Request to Send
5	Clear to Send
6	Data Set Ready
7	Ground
8	Carrier Detect
20	Data Terminal Ready

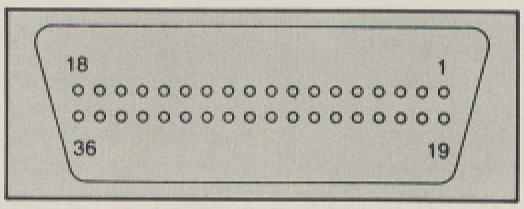


Figure III: Centronics connector pin diagram

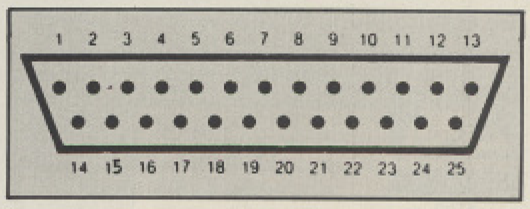


Figure IV – RS-232 connector diagram (modem end)

◀ *From Page 7*

green for the computer to send anything at all. This prevents sending information to a printer which is not turned on, for example.

RS-232 is a far more complex issue. From Figure IV you will note that there seem to be almost as many connections as we have seen on the parallel system, which surely defeats the object of a single-lane highway for computer data. In fact the only two lines which are essential for full two way communication are Data In and Data Out. These allow data to flow along a single line in either direction – rather like a normal highway in which traffic flows along opposite sides of the road.

All of the other lines operate as handshaking aids, like multiple sets of traffic lights. They are very rarely connected over long distances – more often acting as indicators to let the computer know the current status of the modem or other intermediate device.

These are especially important when sending data over telephone lines because you will often be using very slow baud rates – such as 300 or 1200/75 – which may require the computer to pause for relatively long periods.

Most of these handshaking lines refer to the Data Terminal and the Data Set. These are generalised terms, and in our case the Data Terminal would be the Atari micro itself and the Data Set would be the modem – or indeed any other RS-232 device we might have connected.

Ready or not?

To run through the handshaking pins then, the Data Terminal Ready is switched on by the computer to tell the modem it is ready to send or receive information. Some auto-answer modems will check to see if this signal is set before allowing themselves to answer an incoming call. Data Set Ready is just the opposite to DTR – it is a signal set by the modem to say that it is also capable of communicating.

The Request To Send signal is very similar to the DTR, except that it not only says that the computer is ready to send data but actively requests the modem to make ready for a transmission. Clear to Send is the modem's reply to this request, and gives the computer the green light to send its message. The only other important signal line is the Carrier Detect, and all this does is let the computer know when the modem has established a connection via the telephone line. Until this happens there is no point in the computer even getting ready to send information. Carrier Detect is often used by Bulletin Board software to tell the host computer when a call has been received and a connection made.

In fact, the full RS-232 standard lists some 20 signal lines, but most are so obscure that they are almost never used. In fact, most modems will quite happily operate with just the Data In and Data Out lines connected – and those that don't will often only need a permanently-on signal connected to their DTR line.

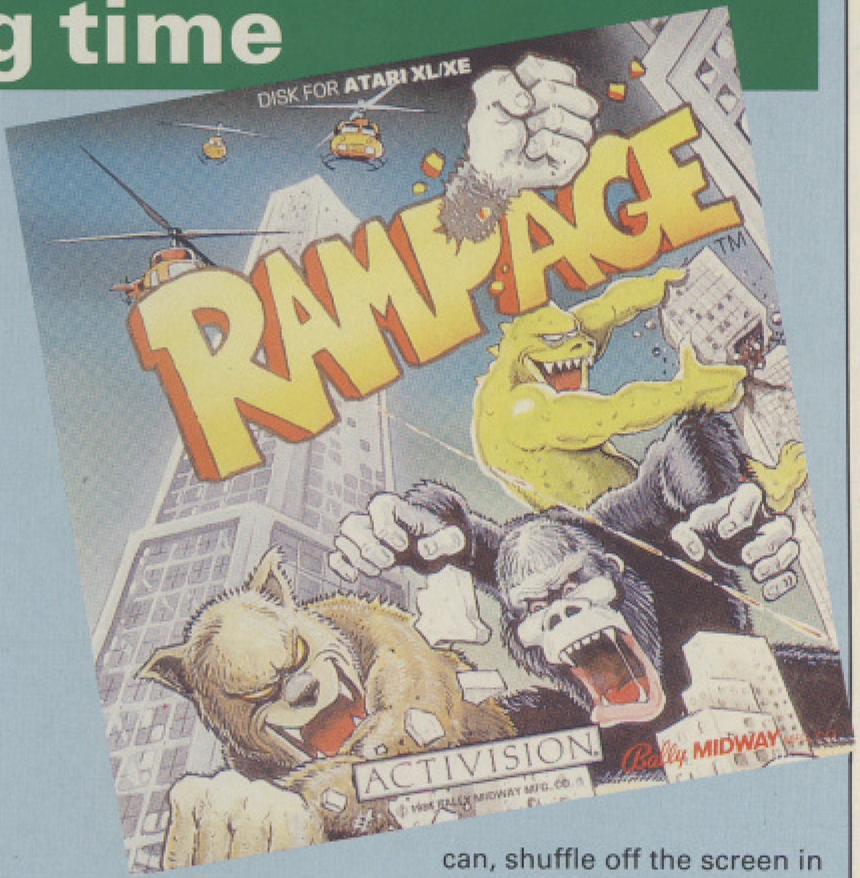
● *Next time I'll explain how the Atari RS-232 interface system works, and how you can write programs to control your 850 Interface or P:R:Connection.*

Once you know how to do that you can connect hundreds of different third-party devices to your micro – ranging from simple plotters to more advanced external sensing equipment.

Software Scene

Have a smashing time

Product: Rampage
Price: £12.95 (disc) £9.95 (tape)
Supplier: Atari World, 11 Fennel Street, Manchester M4 3DU.
Tel: 061-834 4941



IT has been a long time since an arcade game has been converted on to the Atari 8 bit. But now Activision has released Rampage, formerly by Bally Midway.

It is based on the exploits of three indescribably nasty B movie behemoths: King Kong, Godzilla and Wolf-Man. And the only thing that will satisfy them is total destruction.

Loading the disc-based game is simple. Just unplug any cartridges on old machines or hold down the Option key on newer models while switching on. Cassette users must remember to hold down the Start key while following these instructions.

The game is designed to be played by two people using joysticks. Up, down, left and right move your monster in the desired direction. Holding the fire button and then moving the joystick will cause the monster to throw a punch or grab in the chosen direction.

In the very best of Hollywood tradition, Rampage unleashes monstrous mayhem on an unsuspecting public.

It seemed like any other day at the Greaseburger Fast Food Emporium, except for three unlucky customers who were to get something nastier than their usual Big Mucks.

The company's research division has been playing around with several experimental food additives – and have they caused trouble.

A wave of nausea, foul aftertaste then chronic indigestion soon swept over George, Lizzie and Ralph. Then they ripped off their clothing and got into their designer label fur and scales.

Life isn't funny when you're a 50 foot Gorilla, Lizard or Wolf-Man and the rest of the world is just about to find out how bad it is.

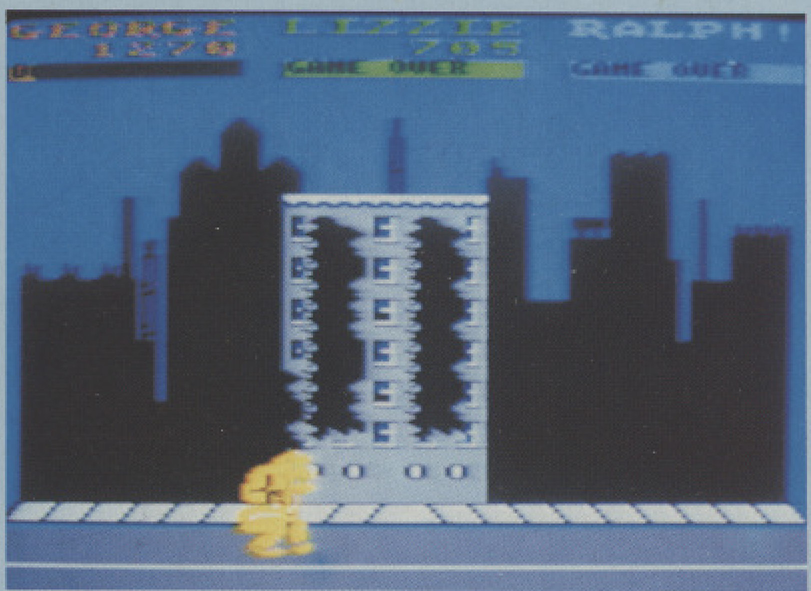
You play the roles of George, Lizzie and Ralph. And in a desperate battle for survival you climb skyscrapers and smash walls with your fists as you look for something edible – anything from toasters to tasty little humans.

Be very careful though, damaged buildings will eventually collapse into rubble. Leap off them when the foundations start to crumble as getting trapped under falling masonry will weaken you.

The nation's military is also hell-bent on your destruction and you must punch or avoid the snipers in the windows. Gunship helicopters are also buzzing around the screen in an attempt to shoot you. Swat them like flies.

If you lose all of your energy – indicated by bars at the top of the screen – you will revert to your human form and, hiding your nakedness as best you can, shuffle off the screen in embarrassment.

When a whole level of buildings has been demolished, a new city block appears ready to be flattened. There are 50 cities, and you spend three days in each, making 150 different screens to destroy.



Rampage is great fun to play and the graphics and animation are very good. Adequate sound effects complement the game, but the title music is atrocious.

Of late only budget games have been reviewed in *Atari User* and it makes a nice change to see a full-price game appear on the market. I only hope that Activision follows it up with a few more.

Rampage has been very well written.

Neil Fawcett

Sound	*6*
Graphics	*8*
Playability	*8*
Value for money	*8*
Overall	*8*

Universal removal man



Product: The Extirpator
Price: £1.99 (tape)
Supplier: Atari World, 11 Fennel Street, Manchester M4 3DU.
Tel: 061-834 4941

YOU are the Extirpator, remover of unwanted items by force. Your task is to root out all evil from the universe and to help you do this you have been placed in charge of the Eagle X-Ray squadron. Your latest mission is to lead a counter attack against the forces of Lax IV who have invaded and enslaved your home planet. You must lead your nine vessels through a number of sectors which are patrolled by enemy pods and craft. After negotiating one level you have to blow your way through the sector wall to proceed to the next sector.

Loading is easy. Remove all cartridges from older machines and hold down the Start key while switching on. On newer machines you have to hold the Start and Option keys while switching on. Then press Return and the game will load.

You control your ship using a joystick plugged into port one – I found the joystick response a little sluggish.

At the top of the screen you will find a very colourful status line which indicates your score, lives remaining, power and what game level you are on. The main screen scrolls from left to right. By splitting the screen into four parts and moving them at different speeds the programmer has given the game a feeling of depth.

The design of your ship is original and so are the enemy craft – one of them reminded me of a flying whale.

I found the graphics quite presentable and the sound effects rather good. The title music is a superb, jazzy piece and really got my foot tapping.

Stephen Fawcett

Sound	*6*
Graphics	*6*
Playability	*6*
Value for money	*6*
Overall	*6*

Going for gold



Product: Quartet Gold
Price: £3.99 (tape)
Supplier: Atari World, 11 Fennel Street, Manchester M4 3DU.
Tel: 061-834 4941

THE latest release from Red Rat Software is another compilation pack – Quartet Gold, containing Space Wars, Dreadnought, Little Devil and Laser Hawk.

Space Wars centres around the hostile actions of the Reldan Empire. At the last meeting of the Intergalactic Federation on the planet Alpine Nine the ugly, warty Reldans from the dark stars declared war on Earth.

As the Federation prepares its own fleet and Reldan craft are massing to attack the Earth, you guide your space fighter through the asteroid belt and enter the fray.

All controls are via a joystick plugged into port one. Keep a sharp eye on your shield function panel at the top right of the screen. When it runs out you're dead. While your shields are at full you can ram Reldan craft and destroy them. But be careful, this drains your strength and you may end up losing a life.

The graphics and sound effects are reasonable. However, I was playing games like this 10 years ago when I first got my Atari. Space Wars is an acceptable game on a compilation pack, but I wouldn't have bought it on its own.

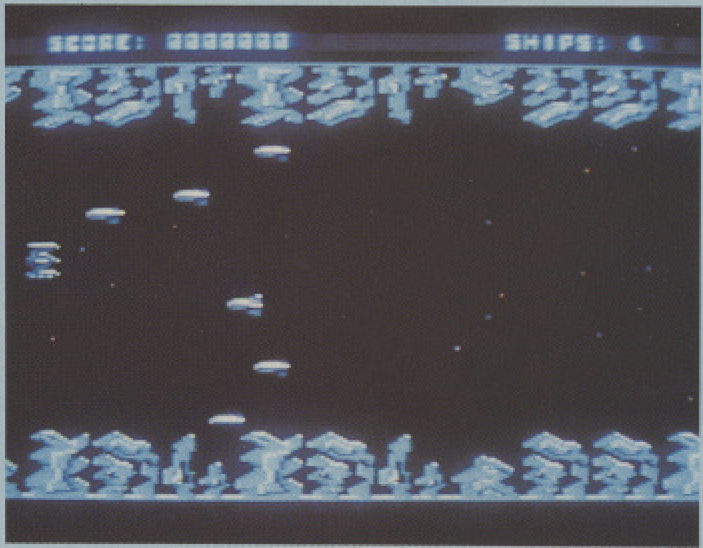
Dreadnought is set deep under Earth's oceans. Here, a terrible battle is being waged in an attempt to save the city of Atlantis from being overrun by aliens from a distant galaxy.

Atlantis was once the home of a race of superscientists who developed fantastic war machines. Now the attacking aliens are attempting to steal them so they can conquer the universe.

Your job, as the commander of the SS Dreadnought – the latest nuclear-powered deep water submarine – is

Keep on firing

Product: Matta Blatta
Price: £1.99 (tape)
Supplier: Atari World, 11 Fennel Street, Manchester M4 3DU.
Tel: 061-834 4941



YOU are the pilot of the latest hi-tech space fighter trying to save the Universe from destruction by deadly anti-matter aliens who are invading it.

You load the game by removing all cartridges from older machines – or hold Option on newer models – and then press Start while switching on the micro. Press Return and the game will load.

You move your ship using a joystick plugged into port one. Pressing fire will shoot your lasers which have a devastating effect on enemy vessels.

At any time during the game you can press Select to pause all action. Pressing it again will continue play.

The part I liked the best was the main title screen. Clever use of DLIs – display list interrupts – has allowed the programmer to create some interesting visual effects.

As budget games go this one is quite good. My only complaint is that the enemy vessels move too fast and you can't avoid them at times.

Stephen Fawcett

Sound	*5*
Graphics	*5*
Playability	*5*
Value for money	*5*
Overall	*5*



to destroy them before they destroy you.

You control the Dreadnought using a joystick plugged into port one. The fire button will launch one of your missiles which will hopefully destroy the enemy.

Again this is an adequate game that should provide some fun. Yet another clone of the old defender style game, it unfortuntely falls short of the original. I grew very tired of Dreadnought after only a few goes.

Little Devil is a character trapped in Hades. The only way he can escape everlasting torment is to release the lost souls which are floating around in a state of limbo.

He must also free Princess Linarta, King Mordread's imprisoned daughter, who is held in Castle Despair. You play Little Devil and you must collect all the souls which are marked with a number, before the time limit expires.

This is done by bouncing and jumping around the various levels. You start the game with three lives and you lose one every time you come in contact with a guardian.

This is the best so far – considering it is yet another variation on a platform game. The graphics are well implemented and the sound effects reasonable. When first released at full price several companies banned it. I can't see why, and I don't think it has any links with the occult or horror.

The final game is **Laser Hawk**. Basically this is a helicopter shoot-'em-up very similar in design to Scramble. Unfortunately, the version I received didn't have a cassette inlay so I can't tell you the story behind it.

The game scrolls from left to right and you must fly low over enemy installations bombing them. Missiles and enemy craft constantly buzz the area, making your life very difficult.

Make sure you watch your energy level carefully as when it drops to zero you are dead. However, located around the screens are fuel dumps. All you have to do is fly over them and your energy level goes up.

The graphics are excellent and the animation of your chopper is very well done. For me this is the most playable game of the four. Overall the compilation is well worth its price tag of £3.99.

Stephen Fawcett

Graphics	*7*
Sound	*7*
Playability	*8*
Value for money	*8*
Overall	*8*

Lancelot



WIN this solid silver Grail, worth £5,000, in the exciting Quest for the Holy Grail competition. Full details in every box.

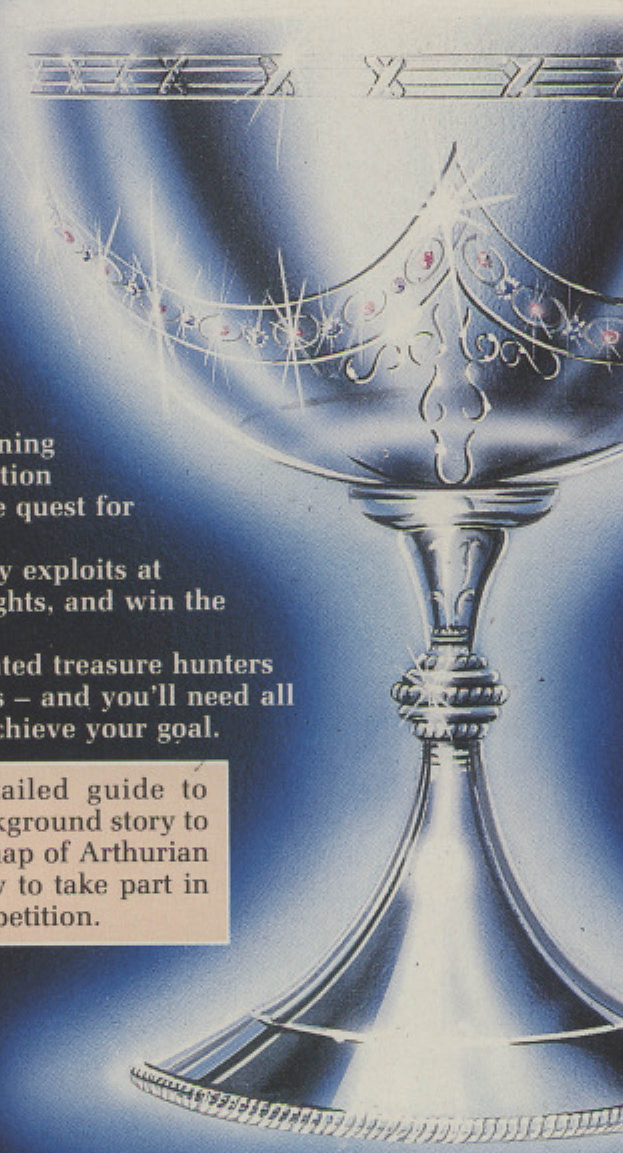
Travel back to the Age of Chivalry when knights were bold, galloping across the countryside and rescuing damsels in distress.

Level 9 recreate the time of wizards and the Knights of the Round Table in their greatest adventure yet. Lancelot consists of three interlinked adventures, spanning the complete saga from the foundation of the Order to its finest hour – the quest for the Holy Grail.

Guide Lancelot through his many exploits at Camelot, battle with wayward knights, and win the love of Guinever and Elaine.

The challenge which has fascinated treasure hunters through the centuries is now yours – and you'll need all your strength, wit and valour to achieve your goal.

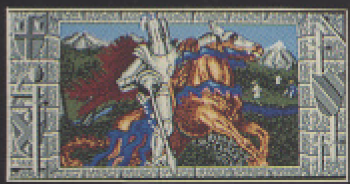
Inside every box there's a detailed guide to playing Level 9 adventures, a background story to the classic legend, a parchment map of Arthurian England – and full details of how to take part in the Quest for the Holy Grail competition.





Screen shots from Atari ST version







MANDARIN SOFTWARE

Level 9

Format	Tape	Disc	Price
Atari ST		●	£19.95
Amiga		●	£19.95
Amstrad PC, IBM PC and compatibles		●	£19.95
Amstrad CPC/PCW/ Spectrum Plus 3		●	£19.95
Commodore 64	●	●	£14.95
Spectrum	●		£14.95
Amstrad CPC	●		£14.95
*Atari XL/XE	●	●	£14.95
BBC Master		●	£14.95
*Apple II		●	£14.95
Macintosh		●	£19.95
MSX 64K	●		£14.95

Note: Tape versions have three cassettes in every package

**These formats and all tape versions are text only.*

Please send me Lancelot on ☐ cassette ☐ disc
for: ______________________ *(state machine)*
*☐ I enclose a cheque for £*_____ *(including VAT and p&p)*
made payable to Mandarin Software
☐ Please debit my Access/Visa number: *Expiry date:* [/]
[| | |] [| | |] [| | |] [| | |]

Signature ______________________

Name ______________________

Address ______________________

____

______________________ *Postcode* ______________________

Send to: Mandarin Software, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.

Enquiries: 0625 879940 Order Hotline: 0625 879920

R212

The American experience

NEIL FAWCETT takes another look at the products available for American 8 bit users

I LOOKED last month at American hardware and the problems of importing it into the UK. This time I want to concentrate on the difficulties you can face when trying to get good quality games for your Atari 8 bit.

Lately the software market in the UK has been undergoing what can only be described as a shortage of well written programs. Only a few loyal software houses are still supporting the 8 bit Atari – Zeppelin, Tynesoft, Red Rat, Activision and Alternative spring to mind immediately.

Luckily most of these software houses have decided to continue producing games and they are waiting for Atari's new support for the 8 bit. This is coming in the shape of a large number of ST game conversions due to be released very soon. Atari's plan is to once again flood the market with superbly written games – just like in the old days.

Also, the High Street shops are again fully supporting the sale of 8 bit hardware. One in particular, Dixons, is packaging a 65XE with 64k ram, XC12 tape deck, a number of games and a 14in Saisho colour TV for only £199.99. Now that's value for money!

If you cast your minds back to last month you'll remember I said I was going to talk about a game called Infiltrator. It's a stunning graphical adventure which is currently only available in America – even though versions on other 8 bit micros have been here since the early part of 1987.

The scenario revolves around the exploits of Johnny McGibbits, super spy and ace helicopter pilot. Your mission is to penetrate and destroy several enemy ground installations.

To help you carry out this dangerous task you have been given control of the Gizmo DHX-1 attack chopper – codenamed the Snuffmaster. Once airborne you set your tactical computer and enter the coordinates of the enemy base.

During the game several aircraft will enter your air space. You must assess whether they are friend or foe and take the necessary action – blast them into little bits or let them go.

Once you land you have to penetrate the base – posing as a guard. Once you have taken photographs of secret documents, gassed guards and planted explosives you have to get out – fast!

As you can see from the screen shot the graphics are marvellous. The most complicated part of the game is remembering what key does what.

Other 8 bit versions of Infiltrator have been released by US Gold in the UK. So what happened to the Atari version written by Mindscape? Does anybody out there know?

If you want to try and get hold of it the phone number is 010 412 361 5291 and the address PO Box 111327, Dept.AT, Blawnox, PA 15238.

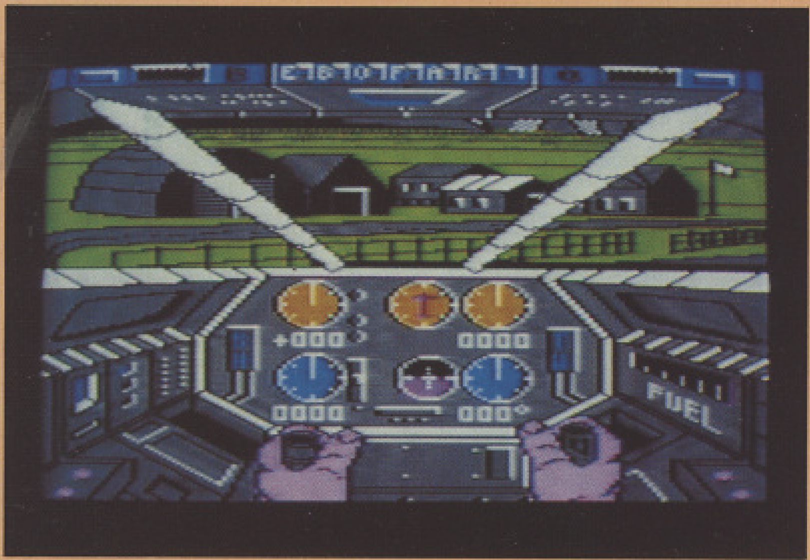
Now on to another game I'm sure Atari owners all over the UK would want to own – Strip Poker. True, it is already available in the UK, but what you can't get are the extra data discs of new players.

The original game supplied you with female players but you can now get a disc of males to strip, too. There are also other discs of female players.

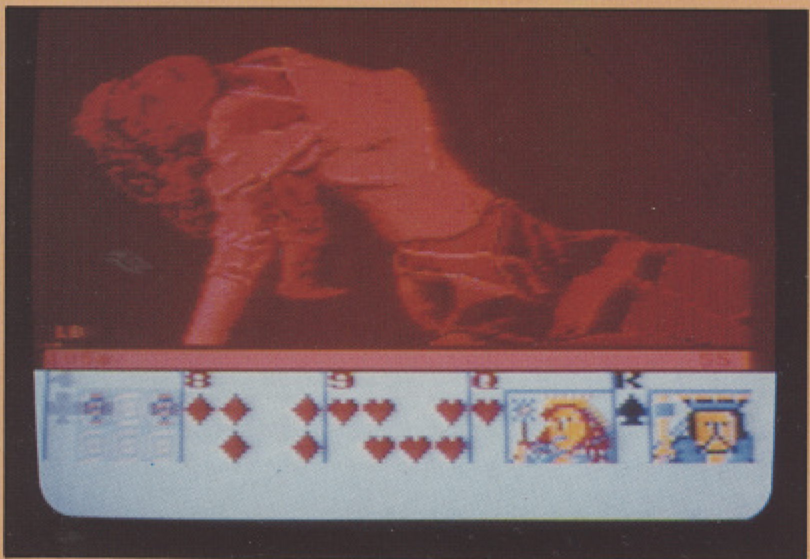
Priced at $14 – or around £9 – you can get it from the same people who sell Infiltrator.

In the desktop publishing field an American company called Springboard Software has just brought out Newsroom for $49.95 – around £30.

You require an Atari XL/XE with at



A stunning graphical adventure



Naughty but nice!

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◀ *From Page 13*

least 64k of memory, a 1050 disc drive – or any other that reads enhanced density discs – and a graphics capable dot matrix printer. Remember that you'll need a Centronics printer interface to make most printers work with the Atari. The only printer directly supported without an interface is the Atari XMM801.

A superbly written manual is included and it won't take you long before your making your own stunning creations. From the main menu you can access five sub-menus – Photo-Lab, Copy Desk, Banners, Layout and Press.

Throughout the program, commands are selected by using either the keyboard or joystick to move control arrows to pick from a menu of icons.

This superb product is a must for all serious users of the 8 bit Atari. You can get Newsroom from Springboard Software Inc., 7808 Creekridge Circle, Minneapolis, MN 55435. Or phone 0101 612 944 3912 for further information.

On much the same subject a product called Printpower has just been released. Very similar to Print Shop, it allows you to create cards, signs, stationery and banners.

You are also supplied with 22 printer drivers for standard dot matrix machines which will require a suitable interface to make them work correctly – an 850 Interface box or P:R: connector from ICD will do the trick.

You can mix text with graphics and on the two discs you get 60 graphics and seven fonts ranging from old English to modern. You can also choose from a range of 20 different borders.

Priced at $14.95 – around £10 – this package is fine value. Write to Hi-Tech Creations Inc., 1700 N. W. 65th Avenue, Suite 9 Plantation, FL 33313 or Tel: 0101 305 584 6386 for more details.

To finish off this month below are 32 titles from the list of just one American supplier which you can't get over here very easily.

● *More goodies next month. Until then, write to the companies mentioned and we at Atari User will try our best to get justice for the UK market.*

Cycle Knight	Lords of Conquest	Printpower
Linkword French 1	Mail Order Monsters	The Computer Club
Linkword German	Music Construction Kit	Top Gunner
Linkword Spanish	Super Boulderdash	Bop & Wrestle
Strip Poker discs 1 to 5	Seven Cities of Gold	Infiltrator
Gulf Strike	Touchdown Football	Universe
Rainy Day Games	Chessmaster 2000	Newsroom
Video Vegas	Sesame St Print Kit	Sticky Bear ABCs
Video Title Shop	Ernie's Magic Shapes	Sticky Bear Numbers
Age of Adventure	Big Bird's Special Delivery	Sticky Bear Opposites
Financial Cookbook		Sticky Bear Shapes

Taken from the list of Software Discounters of America, P.O. Box 111327, Dept.AT, Blawnox, PA 15238.

IT is your birthday and your father has thrown a huge party in your honour. There are cakes, balloons and fireworks for your enjoyment. Everything is going wonderfully and your father announces that it is time to light the first salvo of rockets.

Up they go – and that's when all the trouble starts for you. Unfortunately, a flock of mutant giant birds were on their way south to warmer climates when they were hit by your rockets. Outraged by this intrusion on their annual migration, they attack the party below.

After some quick thinking you decide that the only solution is to light more rockets and hit the birds as they come down the screen.

With lighted taper in hand you must rush over to the row of rockets – stood in their milk bottle launch pads – and blast them into the night sky in a hope of killing the birds.

After typing in the listing check it with GIR II and then save a copy to tape or disc before running it – a mistake in the data statements could result in a crash and you could lose hours of hard work.

There are four levels of play which affect the bird's speed – slow, medium, fast and frantic. Use the Select key to choose the one you require and press Start to begin the game.

Use a joystick plugged into port one to position the taper and press fire to light the blue touch paper. The birds come in waves of three and you start with 20 rockets. When they have all been launched the game is over.

A high score requires accurate timing. Watch the flight path of each bird carefully and avoid setting off all the rockets on one side.



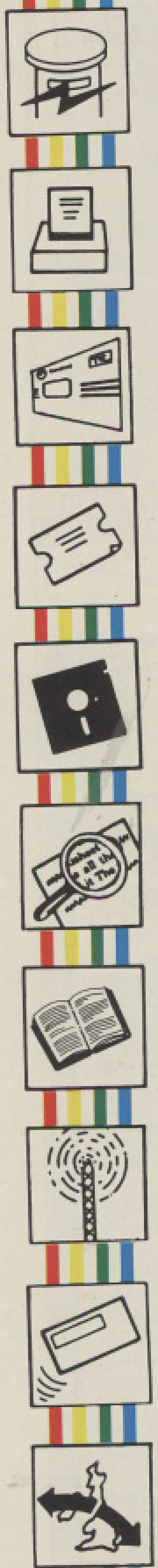
You'll experience nerve tingling excitement when you play STEPHEN WILLIAMSON's fun game

```
10 REM PYROMANIA
20 REM BY STEPHEN WILLIAMSON
30 REM (c) ATARI USER
40 REM INITIALISE
50 GRAPHICS 17:POSITION 4,6:? #6;"PyrO
MaNIa"
60 POKE 708,58:POKE 709,91:POKE 710,12
:POKE 711,172
70 POSITION 4,8:? #6;"PLeASe WaiT..."
80 N1=0:N2=38
90 GOSUB 740:GOSUB 150:GOSUB 1000:GOSU
B 530
100 POKE 623,1:POKE 559,62:POKE 53277,
3:POKE 54279,PMBASE/256
110 POKE 623,1
120 GOTO 380
130 REM SET UP PM SYSTEM
140 REM AND DEFINE VARIABLES
150 PMBASE=36864
160 PL3=PMBASE+1792:HP3=53251
170 POKE 1536,1
180 BIRD0=1540:BIRD1=1541:BIRD2=1542
190 HP0=1543:HP1=1544:HP2=1545
200 VP0=1546:VP1=1547:VP2=1548:SPEED=1
549
210 POKE 54279,PMBASE/256
220 FOR I=0 TO 1280:POKE PMBASE+768+I,
0:NEXT I
230 POKE HP0,INT(RND(1)*160)+40
240 POKE HP1,INT(RND(1)*160)+40
250 POKE HP2,INT(RND(1)*160)+40
260 POKE BIRD0,1:POKE BIRD1,1:POKE BIR
D2,1
270 LIGHT=PL3+183:POKE LIGHT,1:POKE LI
GHT+1,2:POKE LIGHT+2,4:POKE LIGHT+3,8
280 POKE LIGHT+4,16:POKE LIGHT+5,32
290 HP=200:POKE HP3,204
300 POKE 707,30
310 POKE 53278,0
320 REM LOAD ML DATA
330 RESTORE 1780:FOR I=0 TO 365:READ A
:POKE 35000+I,A:NEXT I
340 REM LOAD PM SHAPE DATA
350 RESTORE 670:FOR I=0 TO 101:READ A:
POKE PMBASE+I,A:NEXT I
360 RETURN
370 REM MAIN LOOP
380 GOSUB 2220:SCORE=0:COL=2:LEVEL=1
390 POKE 704,(COL*16)+10:POKE 705,(COL
+1)*16+12:POKE 706,(COL+2)*16+14
400 POSITION 0,23:? #6;"LEVEL ";LEVEL;
"                   SCORE 00   ";
410 POKE BIRD0,1:POKE BIRD1,1
420 POKE BIRD2,1:F=0:POKE SPEED,5-LEVE
L
430 A=USR(35000)
440 POKE 53278,0:FIRE=STRIG(0):ST=STIC
K(0)
450 POKE 77,0
460 IF FIRE=1 AND ST=15 THEN 440
470 IF FIRE=0 THEN GOSUB 1390
480 IF ST=11 THEN HP=HP-2:IF HP<44 THE
N HP=40
490 IF ST=7 THEN HP=HP+2:IF HP>204 THE
N HP=204
500 POKE HP3,HP
510 GOTO 440
520 REM PLOT ROCKETS
530 GRAPHICS 28:POKE 756,128
540 DL=PEEK(560)+256*PEEK(561)
550 POKE DL+28,66:POKE DL+29,56:POKE D
L+30,159
560 POKE DL+31,65:POKE DL+32,128:POKE
DL+33,155
570 POKE 708,60:POKE 709,12:POKE 710,8
4
```

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Link your Atari to the outside world with...

MicroLink



Electronic mail – The cheapest and fastest form of communication possible. It costs the same to send a message to one mailbox as to 500!

Telex – Link up with 96,000 telex subscribers in the UK and 1.5 million worldwide. You can even send and receive telexes after office hours or while travelling.

Telemessages – Type in your message before 8pm and delivery is guaranteed by first post the next day (except Sunday), anywhere in the UK and USA.

Tele-booking – Reserve train and theatre tickets, check flight details worldwide, or order from a vast range of products – from flowers to floppy discs.

Telesoftware – Download directly into your Atari any program from the ever-growing library now available on MicroLink – both games and utilities.

Company searches – Obtain facts about any British limited company in seconds, and fully analysed financial information on over 100,000 major companies.

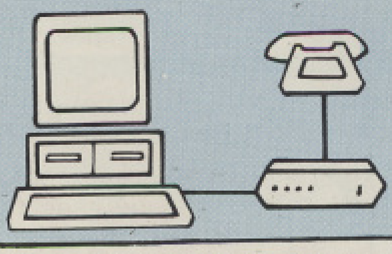
Translation – Access the biggest and most up-to-date multi-lingual dictionary in the world, with over 400,000 words.

News – Use the powerful search commands to pinpoint vital business information from the world's leading news services, newspapers and periodicals.

Radiopaging – If you also have a pocket radiopager you'll be alerted each time an urgent message arrives in your mailbox. So you're always in touch.

Gateways – Get through to New York in just five seconds – or key into the EEC computer in Luxembourg, which links you to 600 databases throughout Europe.

When you join MicroLink you've got the world of communications at your fingertips – 24 hours a day. You'll have immediate access to ALL the facilities offered by Telecom Gold ... and a great deal more besides.



All you need – apart from your Atari – is a modem, which plugs into your telephone wall socket, plus suitable communications software.

We have provided two possible options on the left.

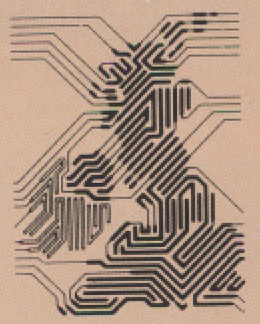
Whichever equipment you use, you will be able to call MicroLink, open your mailbox, save to disc any messages waiting for you, and disconnect in as little as two minutes.

Two recommended packages

If you have an 850 interface:
Pace Nightingale manual modem + cable (£116.15) PLUS Mini Office II (£19.95).
Total price: £136.10.

If you don't have an interface:
Miracle WS2000 V21, V23 modem + Datatari interface + cable + Datatari software.
Total price: £149.95.

With either combination you can also log on to other databases and bulletin boards all round the world.



More than 90 per cent of subscribers can connect to the MicroLink computer at local call rates.

TO FIND OUT MORE
Fill in the coupon and send it to the address below. You will receive full details of services and costs, together with an application form. Complete this and within days you and your Atari will be able to use all the services of MicroLink and Telecom Gold.

Please send me full details about MicroLink, and information sheets about the following hardware and software options (please tick):

☐ Pace package ☐ Miracle package

Name____________________

Address____________________

____

Postcode____________________

Send to: MicroLink, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.

ATU10

Crush, crumble and print



Create your own superb labels with GRANVILLE DANBY's useful routine

This label printing program differs from most because it allows graphics to be mixed with text. The resulting size of the label is 7 by 4 cm, to fit comfortably on a floppy disc or its jacket.

The labels must be designed using a graphics package such as Graphics Art Department, Paint or any which uses a Graphics 7-based screen. Pictures from art programs which use a different graphics mode will not work unless modified.

Only one colour, placed in playfield register 2, can be used. GAD assigns the default colour of green in this register.

The program can be divided into two main sections – loading the picture and printing it. A machine code routine is used to crush the graphic file into a label sized picture on a hi-resolution screen.

Basically, two bytes of colour information are compressed into one byte of monochrome data, and to show how the program does this, here's how the Atari stores its colour information.

In Graphics mode 7 there are 160 pixels across the screen using up 40 bytes of memory, each pixel needing two bits or one quarter of a byte to define it. All the possible combinations of 2 bits are shown in Figure I.

Each pair of bits represent a colour register, so it can be seen that there are a maximum of four colours on a Graphics 7 screen. What the program does is to take every other bit in the file and plot it on the screen – see Figure II.

This is how the two bytes of colour data are crunched into just one byte of monochrome data.

The second section of the program prints out the label. It will only work on an Atari 1029 printer, but if you own an Epson compatible machine, it is possible to add your own printer dump subroutine.

Before the program is run you must select the picture format. If you select Option 3 – any other format – you have to enter the number of dummy bytes preceding the picture file. This number will vary from one art package to the next so I'll leave the conversion to you.

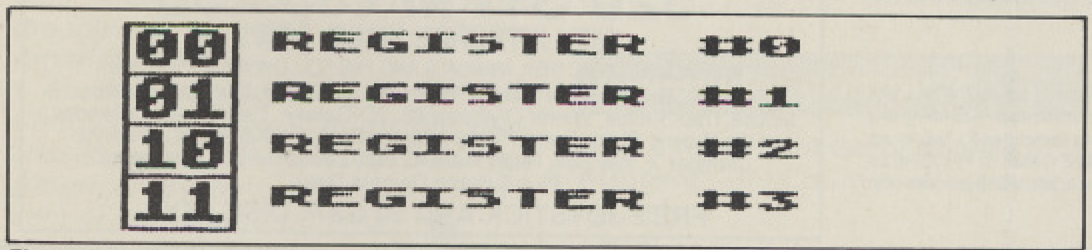


Figure I: All the possible combinations of two bits

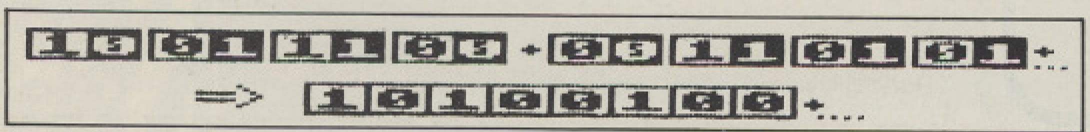


Figure II: How two bytes of colour data are crunched into one

VARIABLES

BUF$	Acts as a buffer for the data
FN$	Picture filename
DUM	Dummy bytes to read
BL,BH / Lo/Hi	Address of *BUF$*

```
10 REM ************************
20 REM * 1029 LABEL PRINTER *
30 REM * BY GRANVILLE DANBY *
40 REM *    (C) ATARI USER    *
50 REM ************************
60 DIM BUF$(160),FN$(20),A$(15)
70 ? "PLEASE WAIT..."
80 FOR X=0 TO 218:READ Y:POKE 1536+X,Y
:NEXT X
90 GRAPHICS 8:SETCOLOR 2,0,0
100 ? CHR$(125);"  1 G.A.D.  2 PAINT
3 ANY OTHER":?
110 ? "ENTER PICTURE TYPE -";
120 TRAP 90:INPUT TP
130 IF TP<1 OR TP>3 THEN 100
140 IF TP=3 THEN ? :? "ENTER DUMMY BYT
ES :";:INPUT DUM
150 IF TP=2 THEN DUM=16
160 IF TP=1 THEN DUM=5
170 ? CHR$(125);"ENTER FILENAME, D1:";
180 FN$="D1:":INPUT #16;A$
190 FN$(4)=A$
200 REM ** READ PICTURE **
210 CLOSE #1:OPEN #1,4,0,FN$
220 FOR T=1 TO DUM:GET #1,A:NEXT T
230 A=USR(1536)
240 CLOSE #1
250 ? CHR$(125);"PRESS P TO PRINT"
260 POKE 764,255
```

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◀ From Page 17

```
270 IF PEEK(764)=255 THEN 270
280 IF PEEK(764)<>10 THEN POKE 764,255
:GOTO 90
290 POKE 764,255
300 REM ** PRINT PICTURE **
310 B=ADR(BUF$)
320 BH=INT(B/256):BL=B-(BH*256)
330 POKE 203,BL:POKE 204,BH
340 FOR Y=0 TO 91 STEP 7
350 POKE 205,Y
360 BUF$(1)="♥":BUF$(160)="♥":BUF$(2)=
BUF$
370 A=USR(1675)
380 CLOSE #1:OPEN #1,8,0,"P:"
390 ? #1;CHR$(27);"9";CHR$(27);"A";CHR
$(0);CHR$(160);BUF$
400 CLOSE #1
410 NEXT Y
420 GOTO 90
430 REM ** FILE CRUNCHER CODE **
440 DATA 104,169,0,133,203,133,209,165
,88,133,207,165,89,133,208,32
450 DATA 110,6,48,9,32,30,6,32,79,6,76
,15,6,96,160,0
460 DATA 132,204,24,165,205,74,74,133,
205,144,7,105,71,6,5,204
470 DATA 133,204,200,192,4,144,235,192
,8,240,11,192,4,208,227,165
480 DATA 206,133,205,76,34,6,96,16,32,
64,128,1,2,4,8,165
490 DATA 204,164,203,145,207,200,132,2
03,192,20,208,17,160,0,132,203
500 DATA 24,165,207,105,40,133,207,165
,208,105,0,133,208,96,162,16
510 DATA 169,7,157,66,3,169,205,157,68
,3,169,2,157,72,3,169
520 DATA 0,157,69,3,157,73,3,32,86,228
,96
530 REM ** PRINTER DUMP CODE **
540 DATA 104,169,0,133,206,169,0,133,2
07,165,205,24,101,207,133,84,165,206,1
33,85,169
550 DATA 0,162,96,133,86,157,72,3,157,
73,3,169,7,157,66,3
560 DATA 32,86,228,201,1,208,11,166,20
7,164,206,189,211,6,17,203
570 DATA 145,203,230,207,165,207,201,7
,208,202,230,206,165,206,201,160
580 DATA 208,190,96,64,32,16,8,4,2,1,0
```

Get it right!

LINE	CHSUM	LINE	CHSUM	LINE	CHSUM
10	CP1 (Y)	210	EYN (2)	410	QL4 (W)
20	CP2 (3)	220	41K (U)	420	PNA (9)
30	CP3 (X)	230	QKT (V)	430	D7V (3)
40	CP4 (4)	240	MF9 (A)	440	COE (D)
50	CP5 (Y)	250	1AO (Y)	450	KJT (2)
60	Q1G (6)	260	TDF (U)	460	2H4 (C)
70	716 (N)	270	LLF (Y)	470	3KC (C)
80	VXN (W)	280	PVP (3)	480	QKP (S)
90	S34 (U)	290	TRF (O)	490	EYV (M)
100	OKW (C)	300	CUU (D)	500	AJP (F)
110	U5R (8)	310	SFW (K)	510	3SF (F)
120	6P3 (U)	320	UOT (9)	520	VKQ (V)
130	L5J (6)	330	QY9 (V)	530	D7W (Q)
140	AFU (M)	340	8A5 (G)	540	6T8 (8)
150	DK9 (E)	350	S99 (E)	550	NHE (3)
160	DFJ (E)	360	3P2 (4)	560	5FP (Q)
170	9G4 (J)	370	R5L (R)	570	G64 (U)
180	KLM (4)	380	CQP (M)	580	X8L (R)
190	RNN (K)	390	T5Y (O)		
200	CUT (Y)	400	LXC (K)		

PROGRAM BREAKDOWN

10-90	Loads in the machine code data
100-190	Shows menu and select options
200-290	Reads a picture into memory
300-420	Prints out the label
430-520	Machine code for data compresssion
530-580	Machine code for the printer

SOFTWARE Solutions

Your programming problems solved by ANDRÉ WILLEY

HELLO again and welcome to this month's mixed bag of technical and not-so-technical queries, ranging from screen output redirection to disc storage problems. Let's start off with a letter from Mr A.H. King from Rye in East Sussex, who writes:

On a recent trip to the USA I spotted a bargain I thought too good to miss – an 800XL, XF551 disc drive and XMM302 modem – all for the equivalent of £104. I didn't want the modem, so the store kindly swapped it for a Flight Simulator II cartridge. Because of the difference in TV systems, I also bought a shop-soiled colour monitor for £40.

My problem now is compatibility. Our family already has two 800XL and 1050 drive systems with which we are all extremely satisfied. My new American hardware, which uses a 110V transformer, works better than either of the British machines. For example, the artificial horizon display on Flight Simulator II is ill-defined on the UK system but shows a nice crisp blue and green instrument display on the US monitor.

I bought the American system solely for the XF551 drive, thinking it would work with my UK standard 800XL – but it doesn't. The opposite does work though – a UK 1050 drive with the American 800XL.

Another peculiarity is that my Flight Simulator II discs – originally purchased in the USA – will not run on my American system, although 99 per cent of our other programs work fine. I'm very confused!

● I'm a little puzzled by this one too. From your letter you seem to have done everything right – bought an NTSC monitor and used all the American products with an additional 240v-110v converter. As you know, the two major problems with imported equipment are the differences in mains voltage and frequency and the fact that America uses a different television system called NTSC – which is not compatible with our own PAL version.

One thing which might help is to buy separate UK 240v transformers from Atari UK, or order them through your local dealer, in the unlikely event that your problem lies with the mains supply itself.

This would allow you to plug the American product – with the exception of the monitor – directly into a normal UK mains socket.

Other than that, the drive should work fine with a British 800XL. I contacted the people at Atari on this one in case they had come across any difficulties, but the only comment they could add was that the drive's operating system rom chip should really be replaced with a UK version for timing reasons.

Assembler printout?

Next a letter from **Gerry Bowles** from Athlowe in County Westmeath, Ireland:

Recently I have started learning 6502 assembly language programming on my 800XL with the old Atari Assembler/Editor Cartridge.

When using the assembler, and having already created and assembled a program, there is a useful facility to trace *or* single-step *the machine code program using the T and S commands on the resident debugger. Since so much information is supplied for each instruction it would be much easier on the eye if I could monitor the various registers via the printer instead of the screen – rather like having a command such as:*

```
S 1000,#P:
```

or:

```
T 600,#P:
```

If this is not directly possible, a routine to allow me to dump a full screen of information to the printer would suffice. Do you have any ideas which might help?

● Thanks for your letter and I'm glad to say there are in fact two fairly simple ways to print out the text from the Assembler/Editor – or indeed any other language.

Firstly, if you happen to use SpartaDos with your disc drive you can just type **PRINT P:** from the main Dos prompt. This will cause all screen text to be sent to both the screen and the printer – or to whatever device you specify. After entering this at the Dos level, just type **CAR** and you're back in the assembler, with echo mode still activated.

Alternatively you can divert all the computer's output to the printer. This

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means all output text – such as prompts, listed lines, trace output and so forth – will not show up on the screen, but are sent to the printer instead. Your own entries via the text editor will still show up on the screen, but I suspect that this won't worry you.

To accomplish this, first enter the debug mode by typing **BUG**, then look into the OS at location $E430 by typing **D E430**. The last two hex numbers on the line will probably be CA and FE for an 800XL, but modified operating systems might alter this.

Anyway, whatever the final two numbers are, you need to place them into locations $346 and $347. You must make sure that you do this using just one store instruction, or the computer will try to use a half-modified address and will most probably crash. In the case of the assembler/editor the *alter memory* command is C, standing for change memory contents. For example:

```
BUG                <RETURN>
D E430             <RETURN>
```

This will display the contents of location $E430 in the form:

```
E430: C1 FE 06 FF C0 FE CA FE
```

You should then enter:

```
C 346<CA,FE      <RETURN>
```

to divert output to the printer. It's as simple as that. I hope one of these methods will solve your problem.

Text screen save

A slightly simpler question from **Mr J. Doherty** from London who asks:

"I have a 103XE with a 1050 disc drive and have written a lengthy word processor program after teaching myself Atari Basic.

The object of my program is to run a club newsletter, prepared using my word processor – in 40 columns – and to save screens as pages of text on disc. These would then be mailed to members for re-loading and perusal. It would also serve as a simple word processor for fun use.

I need to save a complete screenful of text, 960 characters, as one page and as one file on a disc. However, it seems that with PRINT #1;A$ you can only save about a quarter of a screen, necessitating four separate files and four filenames for each page, which is rather cumbersome.

Is there any way to save a full screen of text as one file, or am I approaching the problem in the wrong way?"

● By the sound of it you have slightly misunderstood the way the file handling system works on an 8 bit Atari. I assume your output routine looks something like this:

```
100 OPEN #1,8,0,"D:FILE1.TXT"
110 PRINT #1;A$ 120 CLOSE #1
```

In this *A$* is a 960 byte string containing all the information from the screen. In fact, this will send 960 bytes of text to the file, but your problem really lies with the INPUT routine. If you try to list the file via Dos – by selecting File Copy and copying the file you have just created to E: – you will see that it is all there. So why can't you get it back into the string using INPUT #1,A$?

The answer lies in the input buffer area used by the operating system. In order to use INPUT the file system must transfer bytes of data into a temporary buffer while it looks for a carriage return character to tell it the current string is complete. Unfortunately this buffer area is located at $580 and is only 128 bytes long. In some cases this will extend another 128 bytes into page 6 – up to $67F – but this still won't be enough for your program and you'll receive an Error 137 – *Record truncated.*

```
10 DIM A$(960)
100 OPEN #1,4,0,"D:FILE1.TXT"
110 FOR I=1 TO 960
120 GET #1,CH: A$(I,I)=CHR$(CH)
130 NEXT I
140 CLOSE #1
150 PRINT A$: REM To see the results
160 END
```

Program I: Reading 960 characters using the GET command

There are two solutions to this problem. The first is rather slow, and involves using the GET command, which reads a single character at a time for each of the 960 characters, storing each as the next character in a string. This method is shown by Program I.

The alternative is to use the Binary Get command, which is not directly supported by Basic and so requires a small machine code routine.

This will allow you to read 960 bytes of data from a file directly into memory. This is slightly more complex because you must first find the memory ADDRESS of the string, which must already have space for 960 characters. Program II shows how this can be done, and the machine code routine could easily be used for other applications of CIO data transfer.

```
10 DIM A$(960), MC$(14)
20 A$(1)=" ": A$(960)=" ": A$(2)=A$
30 REM Line 20 fills the string up
with 960 spaces.
40 FOR I=1 TO 14
50 READ BYTE: MC$(I,I)=CHR$(BYTE)
60 NEXT I
70 DATA 104,104,104,170,32,86,228,
132,212,160,0,132,213,96
100 LET CHAN=1: LET SIZE=960
110 LET ADDRESS=ADR(A$)
120 OPEN #CHAN,4,0,"D:FILE1.TXT"
130 CIOBASE=832+(CHAN*16)
140 LET COMMAND=7
150 ADDHI=INT(ADDRESS/256)
160 ADDLO=ADDRESS-ADDHI*256
170 SIZHI=INT(SIZE/256)
180 SIZLO=SIZE-SIZHI*256
190 POKE CIOBASE+2,COMMAND
200 POKE CIOBASE+4,ADDLO
210 POKE CIOBASE+5,ADDHI
220 POKE CIOBASE+8,SIZLO
230 POKE CIOBASE+9,SIZHI
240 ERRCODE=USR(ADR(MC$),CHAN*16)
250 IF ERRCODE<>1 THEN PRINT
"Error ";ERRCODE: END
260 BYTES=PEEK(CIOBASE+8)+
PEEK(CIOBASE+9)*256
270 IF BYTES<>SIZE THEN PRINT
"Early End-Of-File": END
280 CLOSE #1
290 PRINT A$
300 END
```

Program II: Reading 960 bytes using a high-speed Binary Get routine

If you haven't yet worked out how to get all 960 bytes of data from the screen itself into the string, you can use the LOCATE command for each of the 40 by 24 character positions. Each character can then be placed into the string and finally PRINTed to disc. I've written a simple example of this technique as Program III.

```
10 DIM A$(960)
20 GRAPHICS 0: PRINT "TEST SCREEN"
100 LET I=1
110 FOR Y=0 TO 23
120 FOR X=0 TO 39
130 LOCATE X,Y,BYTE
140 A$(I,I)=CHR$(BYTE)
150 LET I=I+1
160 NEXT X
170 NEXT Y
180 POKE 82,0: REM Left Margin=0
190 GRAPHICS 0: PRINT A$
200 END
```

Program III: Convert a screenful of text into a string

All together, now

LEN GOLDING continues his Basic series by showing you how to structure your programs correctly

THIS month we bring together all the techniques learned so far, in a complete Basic game. To show how it's done, we'll dissect the arcade shoot-'em-up listed on the following pages, which incorporates a joystick-controlled missile base, a randomly moving target and two types of missile.

The objects can move over a background scene without disturbing it and the program includes sound, colour and explosion effects, with full on-screen scoring.

Your missile base – gun for short – moves horizontally along the bottom of the screen under joystick control, firing missiles at a target that appears and disappears randomly. The target also shoots at you and if the two types of missile meet, they will destroy each other.

If either target or gun is hit you get a full-screen explosion which wipes out any missiles still in flight. Because of the homing and dodging features, you have to keep moving to stay alive and stand any chance of hitting the target.

Let's look at the game in detail. Line 10 contains four labels – names which are used to replace numeric constants. All four labels represent COLOR numbers, which identify a particular colour/character combination. For example: 42 is an orange star and 118 is a yellow exclamation mark.

The advantage of a label is that it makes it easy to experiment with alternative values. For example, if you'd prefer the target to be a blue cross, just change the label's value from 42 to 171. Whenever the program encounters a reference to the target, it will now use a blue cross. This is a major advantage over raw numbers, and meaningful names are a lot easier to follow than cryptic figures.

The table overleaf lists all the labels and variables used in the program together with their functions.

Lines 20 to 60 set up the initial screen, in Graphics 1 without a text window. Most of the work is done by subroutines, which break the task down into simple blocks. This keeps the main line code uncluttered – and much simpler to understand.

The subroutine at 780 draws a background pattern of dots to prove that the objects can move across a playfield without disturbing it.

You can easily replace this subroutine with one that draws a more inspiring background, using PRINT#6; COLOR and PLOT. Just remember to keep the gun track – horizontal line 19 – clear.

Line 40 draws the gun at its central position, then line 50 calls a subroutine to print the initial values for HITS and LIVES, which were set at line 20. Line 60 jumps into the target

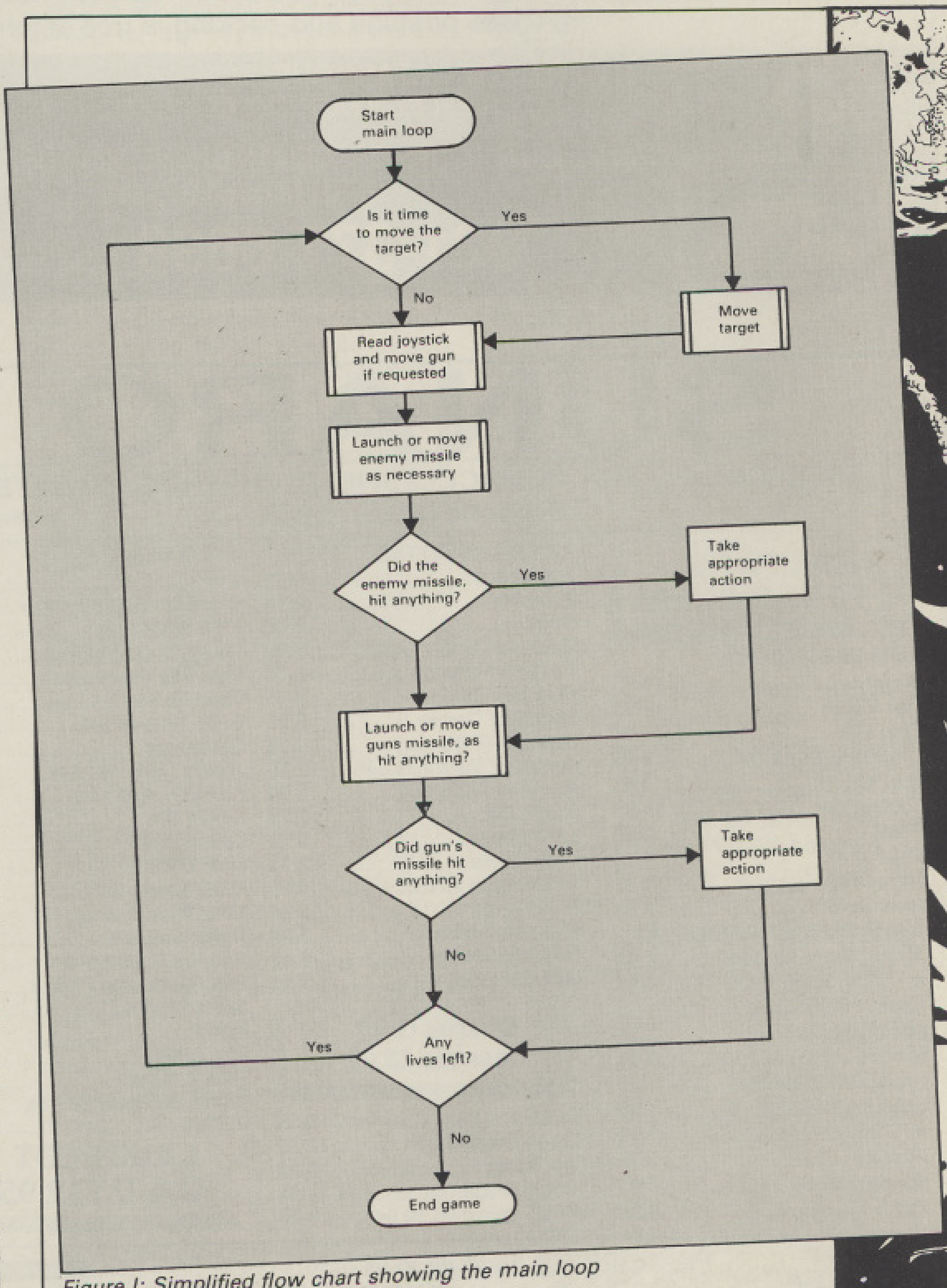


Figure I: Simplified flow chart showing the main loop



movement subroutine, skipping the first two lines because we don't need a bleep, and there's no previous target to erase.

This routine draws the target at a randomly determined position, and calculates a random value for COUNT, which determines how long it will stay at that spot.

When initialisation is complete we can start the main loop – the section of code which moves all the objects around on screen. Everything has to move more or less simultaneously – you'll want to dodge the missile while it's in flight, not be stuck in one position until it hits you. This means that the various movement routines have to be interwoven.

To do this in main line code would be complicated and difficult to de-bug. So instead we've adopted the subroutine approach again, which means that the main loop occupies just five lines, from 80 to 120. If anything goes wrong now, we can easily isolate the faulty section of code, and the use of subroutines makes it much easier to add extra features.

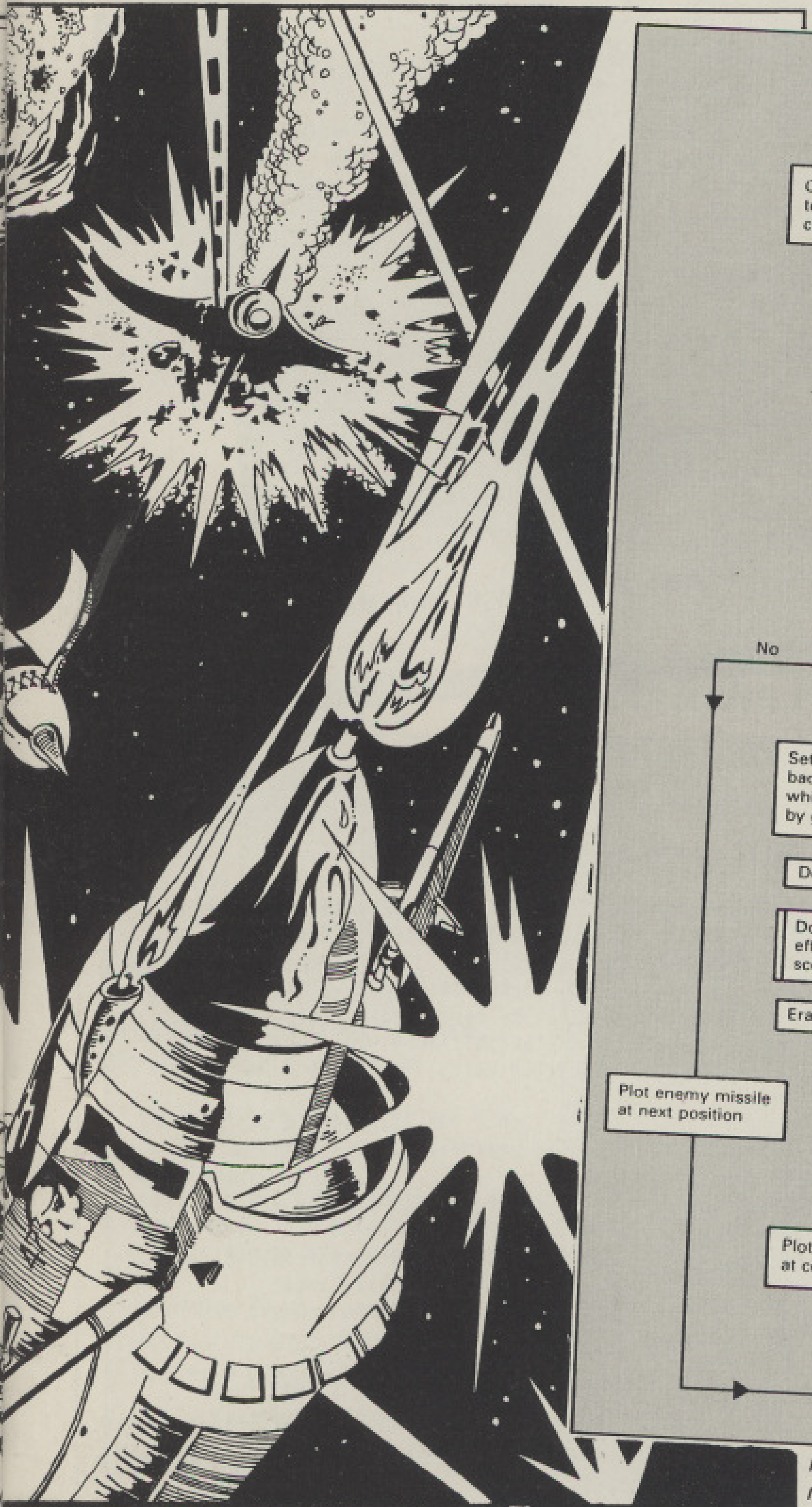
Figure I is a simplified flow chart showing how the main loop works in principle. Decision points are shown as diamonds, and unconditional actions appear in rectangular boxes, as we've explained previously. Subroutines are indicated by a new symbol – a box with double lines for its vertical borders.

Line 80 starts by decrementing COUNT to see whether it is time to re-position the target. If so, the target movement subroutine is called, starting at line 190. This produces a short bleep and erases the current target by plotting the original background character over it. Then it prints a new target, as we saw during initialisation.

The next statement in our main loop – line 90 – jumps to the gun movement subroutine at line 280. This reads the joystick and uses a Boolean routine to calculate the gun's next position. We'll be talking about Boolean expressions in detail next month, so just treat line 300 as a "black box" for now.

Line 130 moves the gun along its horizontal track. Since this is an otherwise blank line, we don't need to waste time checking and storing

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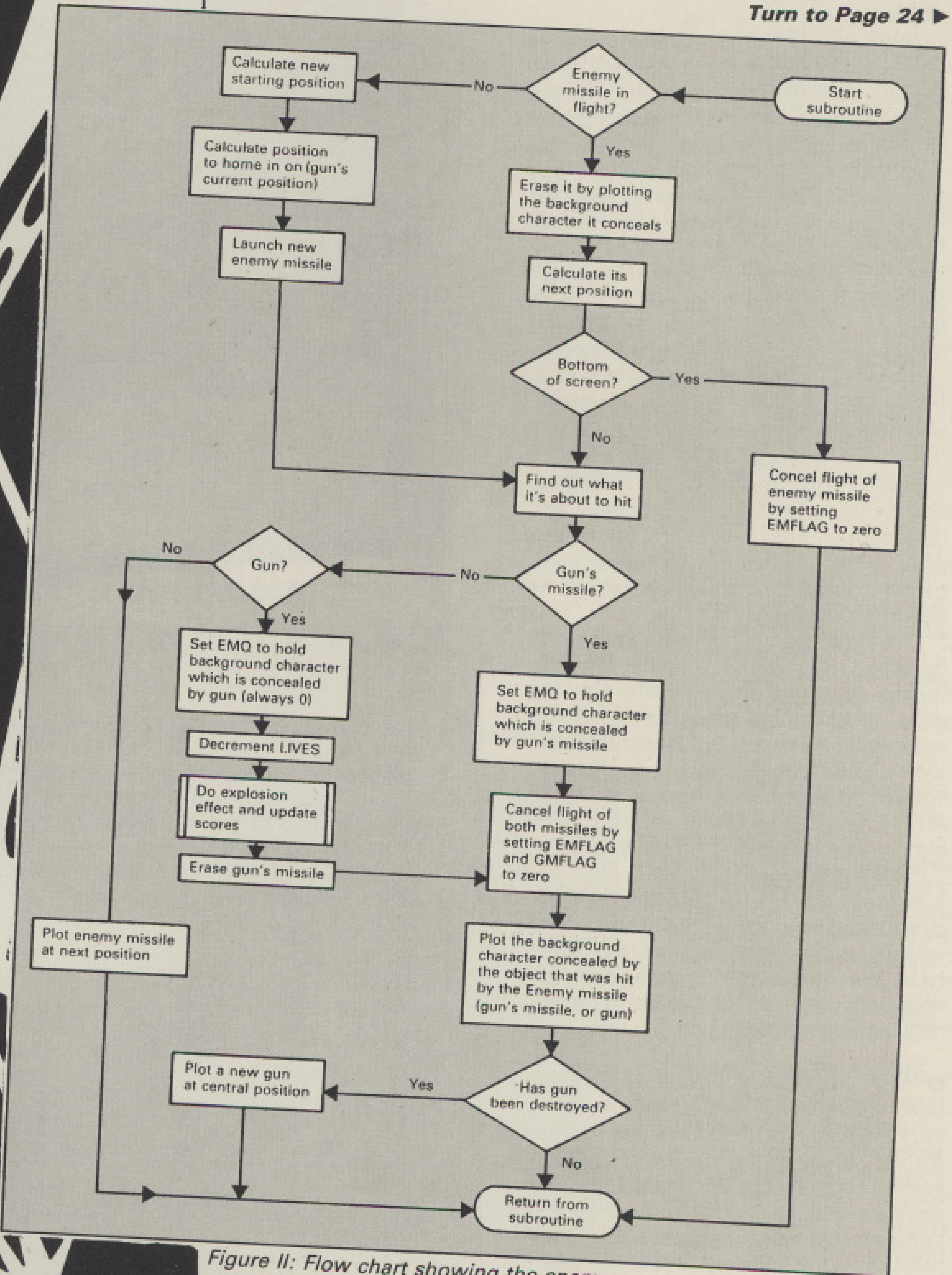


Figure II: Flow chart showing the enemy missile movement routine

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background characters – their COLOR number is always 0.

To move the gun we first erase it by plotting 0 at its current position (GPOS,19), then re-print it at its new position (GP1,19). The gun can't collide with anything when it moves, so there's no need for any hit-detection code.

Back to the main loop, and line 100 calls the complicated subroutine which moves the enemy missile. This routine is shown pictorially at Figure II, so you can trace its operation.

To keep things tidy we've used several variables as flags. These carry on/off information from one part of the program to another. GMFLAG holds the current status of the gun's missile – 1 if it's in flight, 0 if it has reached the top of screen, been destroyed or hit the target.

This flag can be read, or altered, at any point in the entire program, so all the subroutines can keep in touch with each other. EMFLAG monitors the enemy missile's status, and GFLAG holds 1 temporarily when the gun has been hit so that line 490 can take appropriate action before returning to the main loop.

Now we're back to line 110, which calls a subroutine to move the gun's missile. The flow chart is almost identical to that in Figure II, though the labels and variable names will be different. If the target is hit, this routine sets COUNT to 0, so that line 80 will draw a new target on its next pass.

Finally the main loop, line 120, checks to see if there are any lives left. If so, it re-cycles back to line 80; otherwise it drops through to the end-of-game routine at line 140, which is described in the REMs.

The explosion subroutine at line 680 is called if a gun's missile hits the target, or an enemy missile hits the gun. It flashes the background colours, in the way we described last week, and produces an explosion sound. If you're not happy with the effect, just play around with this subroutine – it won't affect any other part of the program.

Once you understand how everything works you can start writing your own versions, either by modifying the program or by using the various routines and techniques in games of your own design.

● *Next month we'll look at Boolean techniques, and explain how these very versatile expressions can replace many lines of complex IF...THEN statements, especially in joystick control routines. We'll also show how you can use them to simulate a few commands which Atari Basic doesn't possess.*

Variables list

TARGET	The COLOR number representing the target – an orange '*'
GUN	The COLOR number representing the gun – an orange '^'
GMSL	The COLOR number representing the gun's missile – a yellow '!'
EMSL	The COLOR number representing the enemy missile – a yellow 'V'
COUNT	Duration of target at its current position
HITS	Number of targets destroyed
LIVES	Number of lives left
GPOS	Current horizontal position of gun
GP1	Next horizontal position of gun
GMH	Current horizontal position of gun's missile
GMV	Current vertical position of gun's missile
GMQ	COLOR number of character concealed by gun's missile
TGH	Current horizontal position of target
TGV	Current vertical position of target
TGQ	COLOR number of character concealed by target
EMH	Current horizontal position of enemy missile
EMV	Current vertical position of enemy missile
EMQ	COLOR number of character concealed by enemy missile
HOME	Horizontal position of gun, when enemy missile is launched
GMFLAG	Holds 1 if gun's missile currently in flight, otherwise holds 0
EMFLAG	Holds 1 if enemy missile currently in flight, otherwise holds 0
GFLAG	Holds 1 if gun has been hit, otherwise holds 0
S	Current value returned by joystick
ROW, COL, V	Loop variables used in drawing background
V	Loop variable used to vary volume in explosion routine
W	Loop variable used to set delay in explosion routine

```
1 REM TARGET SHOOTING GAME
2 REM BEGINNERS SERIES
3 REM (c)ATARI USER
10 TARGET=42:GUN=94:GMSL=1:EMSL=118:RE
M Labels
20 LIVES=3:HITS=0:GPOS=10:REM Variable
s
30 GRAPHICS 17:GOSUB 780:REM Draw scre
en background
40 COLOR GUN:PLOT GPOS,19:REM Draw gun
 in initial position
50 GOSUB 740:REM Print initial scores
60 GOSUB 210:REM Print Target at its i
nitial position
70 REM MAIN LOOP STARTS HERE:
80 COUNT=COUNT-1:IF COUNT<0 THEN GOSUB
 190:REM Re-position Target when requi
red
90 GOSUB 280:REM Gun movement
100 GOSUB 350:REM Enemy missile moveme
nt
110 GOSUB 520:REM Gun's Missile moveme
nt
120 IF LIVES>0 THEN GOTO 80:REM Next c
ycle, if any lives left
130 REM END THE GAME:
140 POSITION 6,5:? #6;"GAME OVER"
150 POSITION 4,7:? #6;"press trigger":
POSITION 3,9:? #6;"for another try"
160 IF STRIG(0)=1 THEN 160:REM Wait fo
r trigger to be pressed
170 GOTO 20
180 REM TARGET MOVEMENT SUBROUTINE:
190 SOUND 0,60,10,8:REM Start the shor
t bleep
200 COLOR TGQ:PLOT TGH,TGV:REM Erase t
arget by restoring background
210 TGH=INT(RND(0)*20):TGV=INT(RND(0)*
10):REM Calculate Target's new positio
n
220 LOCATE TGH,TGV,TGQ:REM Store backg
round character at Target's new positi
on
230 COLOR TARGET:PLOT TGH,TGV:REM Prin
t Target
240 COUNT=INT(RND(0)*30)+30:REM Calcul
ate duration of this Target
250 SOUND 0,0,0,0:REM End the short bl
eep
260 RETURN
270 REM GUN MOVEMENT SUBROUTINE:
280 S=STICK(0):REM Read joystick
```

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ATARI CHRISTMAS SHOW



IS Santa really in danger of being zapped this year?

That question won't be answered until the Atari Christmas Show, when all that's new in software scenarios comes to light.

The theme is Atari in Entertainment – and that translates into games, games and more fun and games.

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R165

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HOW TO GET THERE

Alexandra Palace is so easy to reach by car, rail, underground or bus. It has its own British Rail station, just nine minutes from King's Cross, and there's a free bus service shuttling between the station and show every 10 minutes.

● If you're travelling by road, Alexandra Palace is only 15 minutes from Junction 25 on the M25. Car parking is free.

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```
290 IF S=15 THEN GOTO 330:REM Return i
f centralised
300 GP1=GPOS+((S=7) AND (GPOS<19))-((S
=11) AND (GPOS>0)):REM Calculate new G
un position
310 COLOR 0:PLOT GPOS,19:COLOR 94:PLOT
 GP1,19:REM Move Gun character
320 GPOS=GP1
330 RETURN
340 REM MOVEMENT OF ENEMY MISSILE:
350 IF EMFLAG=1 THEN GOTO 380:REM Bran
ch if missile in flight
360 EMH=TGH:EMV=TGV+1:HOME=GPOS:REM Ca
lculate start position of missile, and
 current position of Gun
370 EMFLAG=1:GOTO 410:REM Launch new m
issile
380 COLOR EMQ:PLOT EMH,EMV:REM Erase m
issile by restoring background
390 EMV=EMV+1:EMH=EMH+(HOME>EMH)-(HOME
<EMH):REM Next position of Enemy Misil
e
400 IF EMV>19 THEN EMFLAG=0:GOTO 500:R
EM Return if missile is at bottom of s
creen
410 LOCATE EMH,EMV,EMQ:REM Find out wh
at the missile is about to hit
420 IF EMQ=GMSL THEN EMQ=GMQ:GOTO 470:
REM Hit Gun's Missile
430 IF EMQ<>GUN THEN COLOR EMSL:PLOT E
MH,EMV:GOTO 500:REM No hit, so plot mi
ssile in new position, then Return
440 EMQ=0:GFLAG=1:REM Gun hit
450 LIVES=LIVES-1:GOSUB 680:REM Decrem
ent lives and do explosion routine
460 COLOR GMQ:PLOT GMH,GMV:REM Erase G
un's missile too
470 EMFLAG=0:GMFLAG=0:REM Cancel fligh
t of both missiles
480 COLOR EMQ:PLOT EMH,EMV:REM Plot ei
ther the Gun background or the Gun's m
issile background
490 IF GFLAG=1 THEN GFLAG=0:GPOS=10:CO
LOR GUN:PLOT GPOS,19:REM Draw next Gun
 at central position, if required
500 RETURN
510 REM MOVEMENT OG GUN'S MISSILE:
520 IF GMFLAG=1 THEN GOTO 550:REM Bran
ch if Gun's Missile in flight
530 IF STRIG(0)=1 THEN GOTO 660:REM Re
turn if trigger not pressed
540 GMH=GPOS:GMV=18:GMFLAG=1:GOTO 580
550 COLOR GMQ:PLOT GMH,GMV:REM Restore
 background character
560 GMV=GMV-1:REM Calculate new positi
on for Gun's Missile
570 IF GMV<0 THEN GMFLAG=0:GOTO 660:RE
M Return if at end of flight
580 LOCATE GMH,GMV,GMQ:REM Store chara
cter under Gun's next position
590 IF GMQ=EMSL THEN GMQ=EMQ:GOTO 640:
REM Hit Enemy Missile
600 IF GMQ<>TARGET THEN COLOR GMSL:PLO
T GMH,GMV:GOTO 660:REM No hit - plot m
issile in new position, then Return
610 GMQ=TGQ:COUNT=0:REM Hit Target
620 HITS=HITS+1:GOSUB 680:REM Incremen
t Hit score and do explosion routine
630 COLOR EMQ:PLOT EMH,EMV:REM Erase e
nemy missile too
640 EMFLAG=0:GMFLAG=0:REM Cancel fligh
t of both missiles
650 COLOR GMQ:PLOT GMH,GMV:REM Plot ei
ther the Enemy missile background or t
he Target background
660 RETURN
670 REM EXPLOSION, AND SCORE UPDATE:
680 FOR V=14 TO 0 STEP -1
690 SETCOLOR 4,INT(RND(0)*16),INT(RND(
0)*16):REM Flash the background
700 SOUND 0,100,8,V:SOUND 1,200,8,V:SO
UND 2,255,8,V:REM Explosion sound
710 FOR W=1 TO 10:NEXT W:REM Short del
ay improves sound effect
720 NEXT V
730 SETCOLOR 4,0,0:REM Restore origina
l background colour
740 POSITION 0,21:? #6;"HITS = ";HITS:
REM Print updated scores
750 POSITION 10,21:? #6;"LIVES = ";LIV
ES;" "
760 RETURN
770 REM DRAW BACKGROUND:
780 COLOR 142:REM Violet dot (.)
790 FOR ROW=0 TO 18:FOR COL=0 TO 19
800 PLOT COL,ROW:NEXT COL:NEXT ROW
810 RETURN
```

SOUNDS FANTASTIC

With the Olympics upon us we have got together with Powerplay to offer you the opportunity to win a share of £300 worth of the very best in portable sports listening. You can follow your favourite sport and competitors whenever you want and wherever you are. PLUS you can add to the thrill of playing any game with one of 15 Cruiser joysticks. There's well over £500 worth of prizes to be won.

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- ★ Auto reverse

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QUESTIONS

1. Mark Spitz was famous for his gold medals in which sport?
   a. Decathlon b. Swimming c. Fencing
2. Steve Cram has run all over the world, but which town is his home base?
   a. Wolverhampton b. Sunderland c. Manchester
3. The Modern Olympic Games changes venue each time, but where was its origin?
   a. Greece b. France c. China
4. The film *Chariots of Fire* concentrated on the events of which Games?
   a. 1928 b. 1932 c. 1924

ENTRY FORM

1.________ 2.________ 3.________ 4.________

Name________________________

Address________________________

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DRACONUS

The making of a legend



NEIL FAWCETT takes a look at a new game and a new software house supporting the 8 bit Atari

OUR spectacular front cover this month shows two creatures from a sensational new game called Draconus, released by Cognito. Linked with the budget company Zeppelin – remember Zybex and Speed Ace? – it is promising to support the 8 bit Atari market by producing value for money, full-price games.

Cognito was formed soon after Zeppelin Games came to terms with the success of its 8 bit titles. Massive sales and a number one spot in the Gallup chart – by both games – for a number of weeks, still show that there is a good market for Atari games.

Zeppelin produced the Commodore 64 version of Draconus and it received a magazine's Silver Medal award. After this success it was decided that the Atari was capable of equalling the quality of the 64 version – and hopefully its financial success.

So a sister company Cognito was formed and 22 year old programmer Ian Copland began writing Draconus. He saw this as the peak of his programming career: "Draconus is the best game I have ever written, and I feel it is the best game ever written for the 8 bit Atari".

Based in Newcastle-upon-Tyne – and not a million miles away from Zeppelin – I found Ian putting the finishing touches to the game.

He has, over the years, written a number of games for several software houses. The number one best seller Gun Law for Mastertronic was his first, closely followed by Space Hawk, which came out on a Microvalue budget pack.

Next came a joint effort with his sister Maureen. The excellent shoot-'em-up Transmuter, released by Code Masters, was yet another best-seller. Ian got his first Atari in 1983 – an old 400 and tape deck. He started programming in Basic, but soon found out that it wasn't the correct environment for him.

So in 1985 he bought an 800XL, 1050 disc drive and Assembler/Editor cartridge the perfect machine code tool with which to write games. However, he found his Assembler cartridge wasn't powerful enough, so he bought the Mac 65 which is still in use today.

Brian Jobling – Zepplin's software director and author of Zybex and Speed Ace – has coordinated the writing of Draconus. "Ian is one of the few programmers who has the ability to write a game of this calibre on the 8 bit Atari," he said. "He's dedicated to his work and loves his 8 bit. What more can you ask from a programmer?"

I was curious to know how Ian came

to start working for Cognito. "That's easy to explain", said Brian. "He came to work for Zeppelin on work experience while he was at college taking a computer science course. I quickly realised he was a very competent programmer so I showed him the Commodore version of Draconus. I asked him if he could write it and he said he could. The rest is history".

Shortly after this Ian began working for the newly-formed company, and has never looked back since. "It's nice to be able to work with people who appreciate the quality of the 8 bit Atari", he said. "And ones who are also willing to support the machine to the full".

What of the future? Brian Jobling said: "After the initial success of Zeppelin's titles and the almost guaranteed success of Draconus from Cognito we are intending to go into a joint venture and release a trilogy of games.

"They have been brought out on just about every other micro and have been a huge success. We thought it was very unfair that Atarians in the UK didn't have a chance to play them too".

The game

Draconus is set on an alien planet ruled by an evil tyrant beast which must be destroyed. Only by doing this can the planet return to more peaceful and happy times.

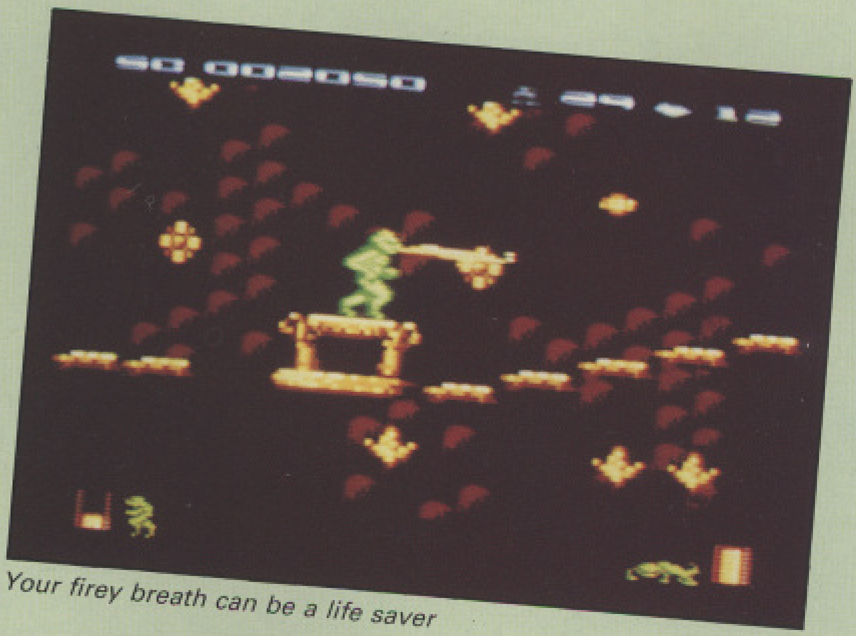
You control both major game characters, Draconewt and Frognum which share the same body. When you stand on a Morph Slab and pull down on a joystick you can transform between the two.

Frognum who plays the major role, can walk, jump, punch, duck and breath fire. Although Draconewt cannot leave his watery environment he can blow a powerful water jet to kill other monsters.

Together the two form a very strong fighting force incorporating everything needed to destroy the tyrant.

Throughout the labyrinth that you must traverse are countless alien nasties just waiting to meet you – or eat you. They include giant rats, bats, sea monsters, terrortoads, catepelose and bonce blobs. The last are balls of gooey matter which hang from ceilings and drip off when you enter. When they hit the floor they bounce around in mid air causing you even more problems.

However, not everything is there to kill you. Several key artifacts have been scattered around the catacombs and you must collect them to stand a



Your firey breath can be a life saver

chance of getting to the final screen and battle the beast itself.

The artifacts are: The Demos shield, necromancer's staff, dragon's eye and the Morph helix. Flasks of flame fluid and energy crystals can also be found around the caves. When you drink the contents of a flask it will allow you to exhale 10 good blasts of fire. When the crystals are ingested they will automatically put your energy rating back up to full.

The graphics are brilliant. The graphic artist Michael Owens has done a wonderful job of the back drops for each screen. Meticulous care has been taken with even the smallest detail.

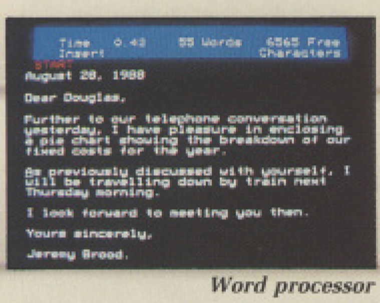
One thing I like in a game is a catchy signature tune. Here Adam Gilmore, the music expert at Cognito, has excelled himself by writing a marvellous piece that accompanies the superb title screen. Other sound effects have also been written with great care. I loved the crunching noise you hear every time you die. This sequence is also accompanied by Frognum splitting into two and blood spurting from the remains of his body – very gruesome.

The beast that you must destroy in the final screen is one of the most terrifying creatures I have ever seen in a computer game. It reminded me of the mother alien from the Aliens movie – big, mean and with large teeth. A wonderful graphical creation from the mind of Michael Owen.

When Ian Copeland said that Draconus was the best game to have been written for the 8 bit Atari he wasn't far wrong. It's really addictive. Buy it!

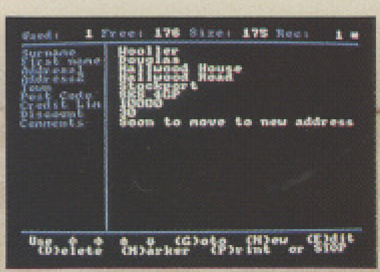


Take care: A gruesome death awaits you on every screen



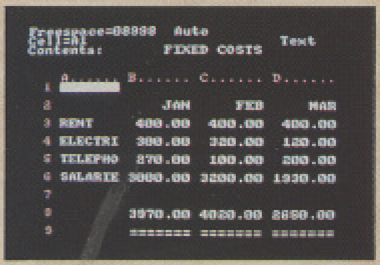
BBC version

Word processor



C64 version

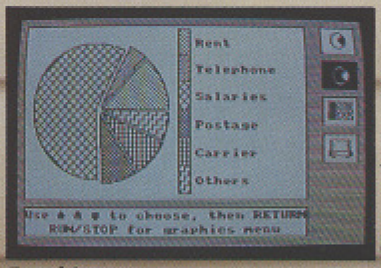
Database



Amstrad version

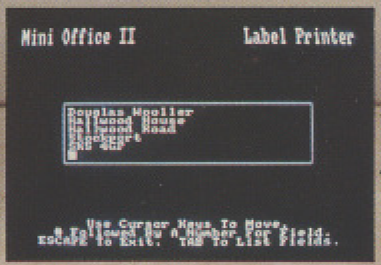
Spreadsheet





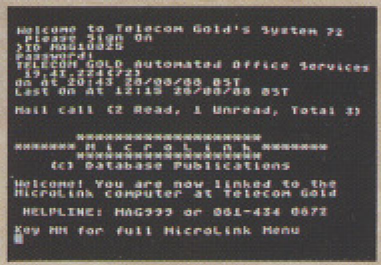
C64 version

Graphics



Amstrad version

Label printer



Atari version

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R217

Join the BIG League

Create your own fixture tables with MALCOLM DOMONE's neat program



IF you have been looking for a league table program look no further. Enter the results from the menu option and this program will calculate the table for you. Originally written for football results, it can be used for any other table with the played, won, lost, for, against and points format – see the program modifications panel.

Once all the relevant data has been input and calculated the program will save it to disc for you – sorry cassette users, it would be too slow to use a tape as a storage medium. You can also create hard copies of your tables with any 80 column printer.

The best way to use the program is to save it on its own disc. Format a blank disc and save Dos files to it – option H on Dos 2.5. This will leave plenty of room for the data files the program will create. Now type in the listing and check it with Get it right! Once you're sure there are no mistakes save it to your newly-prepared Dos disc.

It is important you leave this disc in the drive at all times. When first run the program will check to see if any table data exists on it. At the moment none is, so it will default to the initialisation screen. Just follow the prompts to set up your new table.

Enter the teams in alphabetical order – this will be useful when entering data later. A team name is limited to a maximum of 14 characters in length, if you exceed this you must re-enter it. On entering the last name, the newly created table will be saved to disc. Be very careful at this stage, you may overwrite an existing league table if you're not careful.

This may take some time because all team information will be set to zero and the data is calculated in four sort levels. The sort order is: Highest points, goal difference, goals for and alphabetically. Your disc will now contain four data files and, assuming all is well, you should see the menu screen.

This means that when you next run the program the new data files will be loaded and the menu screen will appear. Your options are:

- **1** Enter results
- **2** View league tables
- **3** View fixtures
- **4** Search fixtures
- **5** History tables
- **6** History fixtures
- **7** Enter team data
- **8** Toggle printer status

You have now reached the stage where you have to enter the team results. After selecting option 1 you will be prompted to confirm your selection – press Y followed by Return. The screen will change to allow you to enter the results.

Use the + and * keys until the home team appears on the screen. Press Return to make a selection and the name will echo back on to the screen. Enter the team's score and then select the away team and its score in the same way. Once you have made your entries the fixtures will be saved to disc followed by the league table once it has been calculated. You will then be returned to the menu screen. At the moment the printer status will be set to Off.

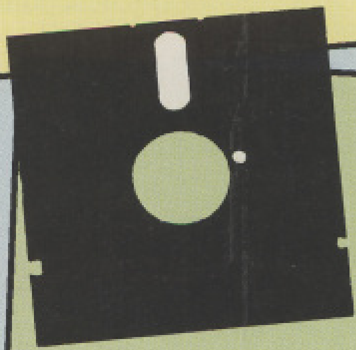
If set to On any information sent to the screen will also be echoed to the printer.

Ensure your printer is connected

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ATARI USER MAIL ORDER OFFERS

10 fabulous programs from your favourite Atari 8 bit magazine!



Ten of the Best Games Volume II

Colour Puzzle – A mind-boggling brain teaser devised to confuse and bewilder. Match the coloured squares in this version of the traditional sliding block puzzle.

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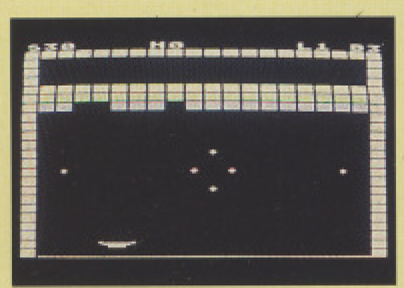
Brag – Saloon gambling in the Wild West as you take on three of the meanest card players this side of Dodge City. There may be more at stake than just cards.

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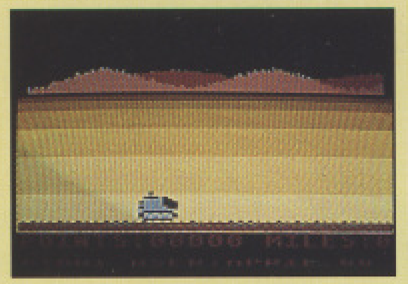
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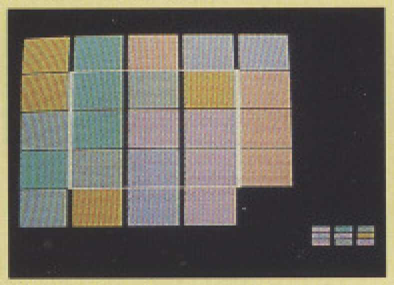
Breakin



Tyrants of Torment



Dam Trouble



Colour Puzzle

TO ORDER PLEASE USE THE FORM ON PAGE 47

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when using this option, as an error message may occur if it isn't. If you don't have a printer follow the instructions in the modifications panel. Most of the other menu selections are obvious but others require some explanation.

Option 5 will display any league table. Enter the date of the table required and the program will search the disc for it. If a table doesn't exist for the date entered a message will appear on the screen.

Option 7 can be used in one of two ways. The first is to change team data and the second is to allow data to be entered into the program during a season if games have already been played – for example, setting up a mid-season table.

Once selected you will be asked to confirm your action with Y or N. Enter the date – this should be later than the one shown – and the current team data will be displayed. If no change is required just press Return.

If you want to change any data enter the new number followed by Return. A beep will be heard when a new team name is displayed.

If an error is made on an entry the team will be re-displayed and all the data will have to be re-entered, so be very careful what you type. When the changes have been made your new table is calculated and then re-saved.

And that's it. Enter your table now, but be careful when entering data as errors are not easily corrected after pressing Return.

PROGRAM BREAKDOWN

- 60 – 110 Initialise variables
- 120 – 380 Various subroutines
- 390 – 790 Load a league table from a disc
- 800 – 940 Save a league table to disc
- 950 – 1020 Load a history table from disc
- 1030 – 1190 Menu screen
- 1200 – 1240 Load history fixtures
- 1250 – 1680 Calculate league table
- 1690 – 2130 Print table to screen or printer
- 2140 – 2180 Fixture search
- 2190 – 2540 Enter results and save to disc
- 2550 – 2950 Read fixture from disc and display or print it
- 2960 – 2980 Printer on or off routine
- 2990 – 3240 Enter league name and the teams in it
- 3250 – 3470 Input or change the team data

MODIFICATIONS

The program as shown awards three points for a win. If your table awards a different number you will need to replace the 3 at the end of lines 2400 and 2410 with the new value.

If you don't have a printer add the following line to your program:

```
2965 PRS$=" *** ":GOTO 1140
```

This will inhibit the printer output if option 8 is selected.

```
10 REM ***************************
20 REM * LEAGUE RESULTS/TABLES   *
30 REM *    BY MALCOLM DOMONE    *
40 REM *     (c) ATARI USER      *
50 REM ***************************
60 SETCOLOR 2,0,0
70 DIM LN$(20),T$(15),DATE$(12),DS$(12
),DR$(12),PR$(80),PRS$(5)
80 PRS$="OFF":PRTOG=0
90 DIM C$(1):C$=CHR$(155)
100 OPEN #3,4,0,"K:"
110 TRAP 3000:GOTO 390:REM GOTO LOAD T
ABLE
120 REM *** DIMENSION ***
130 DIM TN$(NT*15),PL(NT),HW(NT),HD(NT
),HL(NT),HF(NT),HA(NT),AW(NT),AD(NT),A
L(NT),AF(NT),AA(NT),PTS(NT)
140 DIM TP(NT),PT(NT),T(NT),DHT(NT),DH
S(NT),DAT(NT),DAS(NT),GD(NT),AGD(NT)
150 RETURN
160 REM *** END OF LIST INDICATOR ***
170 POKE 752,1:POSITION 38,22:? "■":GE
T #3,K:RETURN
180 REM *** RIGHT JUSTIFY ***
190 IF X<10 THEN PRINT " ";
200 PRINT X;" ";
210 IF X<10 THEN PC=PC+1
220 T$=STR$(X):PR$(PC,PC+LEN(T$)-1)=T$
230 RETURN
240 REM *** TEAM NAME ROUTINE ***
250 POKE 752,1
260 POSITION 18,21:? TN$(X*15-14,X*15)
270 GET #3,K
280 IF K=42 THEN X=X+1
290 IF K=43 THEN X=X-1
300 IF X>NT THEN X=1
310 IF X<1 THEN X=NT
320 IF K=155 THEN POKE 752,0:RETURN
330 GOTO 260
340 REM *** CLEAR LINE ***
350 POSITION 0,21:? "
                    ";:RETURN :REM 37 S
PACES
360 REM *** CLEAR PRINTER STRING PR$ *
**
370 PR$=" ":PR$(80)=" ":PR$(2)=PR$:PR$
="":RETURN
380 T$=STR$(A):? T$;:FOR N=1 TO LEN(T$
):? "←";:NEXT N:INPUT #16,A:RETURN
390 REM *** LOAD TABLE ***
400 ? "↰":POKE 752,1:POSITION 10,10:?
"LOADING LEAGUE TABLE"
410 POKE 764,255
420 IF EFF=1 THEN POSITION 10,10:? "LO
ADING CURRENT TABLE"
430 OPEN #1,4,0,"D:TEAMNAME.DAT"
440 INPUT #1,NT
450 IF TSF=1 OR HTF=1 THEN 470
460 GOSUB 130
470 FOR G=1 TO NT
480 INPUT #1,T$:TN$(G*15-14,G*15)=T$
490 NEXT G
500 CLOSE #1
510 OPEN #1,4,0,"D:TABLE.DAT"
520 INPUT #1,LN$,DATE$,NT
530 POSITION 13,14:? DATE$
540 IF TSF=1 THEN POSITION 5,17:? "ES
C TO EXIT THIS OPTION"
550 IF TSF=1 AND DATE$=DS$ THEN ? :? :
? DS$;" FOUND...LOADING DATA"
560 CTF=1
570 FOR G=1 TO NT
580 INPUT #1,A:PL(G)=A
590 INPUT #1,A:HW(G)=A
600 INPUT #1,A:HD(G)=A
610 INPUT #1,A:HL(G)=A
620 INPUT #1,A:HF(G)=A
630 INPUT #1,A:HA(G)=A
640 INPUT #1,A:AW(G)=A
650 INPUT #1,A:AD(G)=A
660 INPUT #1,A:AL(G)=A
670 INPUT #1,A:AF(G)=A
680 INPUT #1,A:AA(G)=A
690 INPUT #1,A:PTS(G)=A
700 INPUT #1,A:TP(G)=A
710 INPUT #1,A:PT(G)=A
720 NEXT G
730 IF PEEK(764)=28 THEN TSF=0:CLOSE #
1:GOTO 400
740 IF TSF=1 AND DATE$<>DS$ THEN 520
750 CLOSE #1:CLOSE #2
760 TSF=0
770 IF EFF=1 THEN 2230
```

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```
780 IF HTF=1 THEN 1250
790 GOTO 1040:REM GOTO MENU
800 REM *** SAVE TABLE ***
810 ASF=0:POKE 752,1:? :? :? "SAVING T
ABLE DATA......PLEASE WAIT";
820 OPEN #1,8,0,"D:TABLE.DAT"
830 OPEN #2,9,0,"D:TABHISTY.DAT":REM O
PEN TO APPEND
840 FOR T=1 TO 2
850 PRINT #T;LN$;C$;DATE$;C$;NT;C$;
860 FOR G=1 TO NT
870 PL=PL(G):HW=HW(G):HD=HD(G):HL=HL(G
):HF=HF(G):HA=HA(G):AW=AW(G):AD=AD(G):
AL=AL(G):AF=AF(G):AA=AA(G):PTS=PTS(G)
880 PT=PT(G):TP=TP(G)
890 PRINT #T;PL;C$;HW;C$;HD;C$;HL;C$;
900 PRINT #T;HF;C$;HA;C$;AW;C$;AD;C$;A
L;C$;AF;C$;AA;C$;PTS;C$;
910 PRINT #T;TP;C$;PT;C$;
920 NEXT G:NEXT T
930 CLOSE #1:CLOSE #2
940 GOTO 1040:REM GOTO MENU
950 REM *** HISTORY TABLE ***
960 HTF=1:? "↖":POSITION 5,5:? " FIND 
LEAGUE TABLE BY DATE "
970 POKE 752,0:? :? :? "ENTER DATE REQ
UIRED ";:INPUT DS$:POKE 752,1
980 OPEN #1,4,0,"D:TABHISTY.DAT"
990 TSF=1
1000 ? :? :? "  SEARCHING DATA...PLEAS
E WAIT"
1010 TRAP 1020:GOTO 520
1020 ? :? :? :? "[↖]":? "      ";DS$;" NO
T FOUND":CLOSE #1:GOSUB 170:GOTO 1040
1030 REM *** MENU ***
1040 ? "↖              MENU "
1050 POKE 752,1
1060 ? :? "    1. ENTER RESULTS"
1070 ? :? "    2. VIEW LEAGUE TABLE"
1080 ? :? "    3. VIEW FIXTURES"
1090 ? :? "    4. SEARCH FIXTURES"
1100 ? :? "    5. HISTORY TABLES"
1110 ? :? "    6. HISTORY FIXTURES"
1120 ? :? "    7. ENTER TEAM DATA"
1130 ? :? "    8. TOGGLE PRINTER STATU
S"
1140 POKE 752,1:POSITION 9,21:? "PRINT
ER IS ";PRS$
1150 GET #3,K
1160 POKE 752,0
1170 K=K-48
1180 IF K<1 OR K>8 THEN ? "[↖]":GOTO 104
0
1190 ON K GOTO 2200,1250,2550,2140,960
,1210,3260,2960
1200 REM *** HISTORY FIXTURES ***
1210 ? "↖":POSITION 5,5:? " FIND FIXTU
RES BY DATE "
1220 POKE 752,0:? :? :? "ENTER DATE RE
QUIRED ";:INPUT DS$:POKE 752,1
1230 FSF=1:TSF=0
1240 GOTO 2550:REM READ FIXTURE DATA F
ROM DISK
1250 REM *** TABLE CALC ***
1260 POKE 752,1:? "↖":POSITION 3,10:?
"CALCULATING TABLE......PLEASE WAIT"
1270 FOR G=1 TO NT
1280 T(G)=PTS(G)
1290 GD(G)=(HF(G)+AF(G))-(HA(G)+AA(G))
1300 NEXT G
1320 IF CTF=1 THEN 1690
1330 CTF=1
1340 F=0:REM START SORT
1350 FOR C=1 TO NT-1
1360 IF T(C+1)<=T(C) THEN 1410
1370 T=T(C)
1380 T(C)=T(C+1)
1390 T(C+1)=T
1400 F=1
1410 NEXT C
1420 IF F=1 THEN 1340
1430 FOR S=1 TO NT
1440 CGD=0
1450 FOR T=1 TO NT
1460 IF T(S)=PTS(T) THEN TP(T)=S:CGD=C
GD+1:AGD(CGD)=T
1470 NEXT T
```

Get it right!

LINE CHSUM	LINE CHSUM	LINE CHSUM
10 CP1 (Y)	590 312 (H)	1170 PMO (6)
20 CP2 (3)	600 1VH (V)	1180 6EE (U)
30 CP3 (X)	610 2OR (R)	1190 PSO (Q)
40 CP4 (4)	620 24K (Q)	1200 D6N (H)
50 CP5 (Y)	630 28E (Y)	1210 H84 (H)
60 XA4 (7)	640 2DN (H)	1220 6WY (N)
70 FPL (Y)	650 2H2 (D)	1230 U3A (M)
80 DAO (V)	660 2MA (S)	1240 Q2W (M)
90 7WG (4)	670 2R4 (6)	1250 DHN (K)
100 4TC (N)	680 2UY (S)	1260 5DO (P)
110 8C4 (2)	690 7AM (W)	1270 73C (G)
120 D3S (E)	700 1WN (V)	1280 XO6 (L)
130 43D (C)	710 21J (J)	1290 OWW (H)
140 G5C (L)	720 NG7 (L)	1300 MYS (K)
150 RT5 (S)	730 2HD (A)	1320 ELJ (C)
160 DLS (M)	740 8CA (X)	1330 KS2 (9)
170 M2C (H)	750 317 (5)	1340 U5G (D)
180 DUS (T)	760 E6J (E)	1350 AXC (T)
190 N3J (3)	770 6JG (4)	1360 FS3 (N)
200 RTM (7)	780 6N3 (2)	1370 QVN (9)
210 ASM (Y)	790 STG (3)	1380 VNX (L)
220 5MK (6)	800 CVO (4)	1390 RV2 (F)
230 RK6 (D)	810 T2G (1)	1400 DEQ (9)
240 DCT (3)	820 QET (R)	1410 MWS (9)
250 ST8 (O)	830 AOW (X)	1420 6C7 (P)
260 E6X (2)	840 TK8 (T)	1430 8LC (7)
270 RFW (M)	850 W9P (E)	1440 KSA (G)
280 DME (H)	860 TX7 (Q)	1450 8UC (V)
290 DUE (M)	870 QOH (Y)	1460 AML (C)
300 FRJ (2)	880 9KX (2)	1470 PCS (G)
310 86Q (S)	890 3JM (S)	1480 DA1 (F)
320 36T (U)	900 HF7 (3)	1490 EON (8)
330 QS9 (A)	910 4AE (L)	1500 CFH (J)
340 DCU (4)	920 WRW (C)	1510 CXO (Y)
350 7CX (5)	930 2S9 (W)	1520 UR2 (R)
360 DLU (A)	940 S6J (M)	1530 7NE (O)
370 GMQ (E)	950 DH1 (H)	1540 8OD (R)
380 EM4 (O)	960 J5J (M)	1550 FU9 (P)
390 DYU (8)	970 95T (N)	1560 FW7 (T)
400 SKP (S)	980 UVM (5)	1570 5AX (J)
410 SRH (R)	990 EKM (5)	1580 5EO (Q)
420 EU6 (2)	1000 Q2L (P)	1590 J8C (D)
430 S6L (1)	1010 89H (O)	1600 HWU (4)
440 P6K (1)	1020 42G (3)	1610 N9S (4)
450 WAV (R)	1030 D4N (5)	1620 N9S (4)
460 PGM (E)	1040 PNQ (5)	1630 P9S (1)
470 U23 (U)	1050 PWD (M)	1640 8WC (H)
480 O9V (V)	1060 M3X (T)	1650 93C (2)
490 PC4 (R)	1070 23Q (F)	1660 TSH (L)
500 LXD (C)	1080 QC5 (T)	1670 PLS (P)
510 Q7Q (X)	1090 RSU (J)	1680 PLS (J)
520 6YG (N)	1100 FRS (Y)	1690 E8N (P)
530 HNE (V)	1110 U6V (Q)	1700 7X8 (G)
540 14R (M)	1120 P59 (7)	1710 J1A (V)
550 YT6 (F)	1130 9WD (V)	1720 AE6 (K)
560 DX8 (D)	1140 OYN (S)	1730 JYE (R)
570 U24 (U)	1150 PLN (K)	1740 GCC (R)
580 2W7 (8)	1160 Q38 (7)	1750 E77 (K)

LINE CHSUM	LINE CHSUM	LINE CHSUM
1760 JTS (K)	2340 PX6 (J)	2920 JDT (G)
1770 K75 (9)	2350 2WW (X)	2930 X8Y (N)
1780 LP4 (O)	2360 XA8 (D)	2940 RQJ (7)
1790 1W5 (L)	2370 3XN (P)	2950 DWP (Y)
1800 91C (7)	2380 CPM (A)	2960 EFP (Y)
1810 RNJ (V)	2390 AHD (5)	2970 JCD (2)
1820 H94 (V)	2400 2NY (J)	2980 JQ8 (O)
1830 PCS (K)	2410 2WV (E)	2990 EMP (3)
1840 J7O (K)	2420 3XL (O)	3000 8ER (T)
1850 LJ9 (S)	2430 N9T (2)	3010 CAQ (5)
1860 YLJ (R)	2440 DQT (N)	3020 W5K (L)
1870 YKR (D)	2450 NKS (A)	3030 SR3 (H)
1880 YP6 (E)	2460 AN4 (2)	3040 6NE (A)
1890 YPX (V)	2470 8X1 (S)	3050 24P (A)
1900 Y8C (T)	2480 5ND (A)	3060 QNT (Y)
1910 NLV (D)	2490 QS7 (M)	3070 N1U (Y)
1920 K4Y (U)	2500 CST (Y)	3080 6WE (6)
1930 LL6 (X)	2510 N9T (W)	3090 3AD (K)
1940 MOL (C)	2520 8KL (4)	3100 FJD (H)
1950 MFU (J)	2530 SDU (Y)	3110 N2L (J)
1960 LMP (5)	2540 83H (T)	3120 9J3 (J)
1970 M2J (N)	2550 OCL (F)	3130 MWU (H)
1980 MHS (4)	2560 J3C (X)	3140 8KQ (D)
1990 LP7 (1)	2570 NSJ (9)	3150 L71 (W)
2000 KDH (C)	2580 YEG (F)	3160 UVC (E)
2010 KTA (A)	2590 K95 (G)	3170 6YE (Q)
2020 KO6 (F)	2600 JNF (X)	3180 873 (N)
2030 MMW (X)	2610 G1D (V)	3190 8MP (2)
2040 YYN (U)	2620 JKQ (6)	3200 MUU (2)
2050 CJT (P)	2630 O8T (T)	3210 RVV (U)
2060 6TX (U)	2640 VAG (S)	3220 CAJ (C)
2070 SJJ (J)	2650 VCU (X)	3230 DNN (L)
2080 K84 (L)	2660 5SD (G)	3240 7QJ (M)
2090 S8T (6)	2670 F5O (T)	3250 DHQ (H)
2100 NJT (2)	2680 XT8 (9)	3260 AGX (6)
2110 78R (A)	2690 NWT (8)	3270 V1K (6)
2120 E3R (9)	2700 EVU (D)	3280 448 (V)
2130 CSP (M)	2710 2DH (1)	3290 HMX (X)
2140 MEM (6)	2720 FWS (K)	3300 6SE (4)
2150 DDP (2)	2730 G1M (G)	3310 32G (7)
2160 G6S (3)	2740 K1P (Y)	3320 PMW (M)
2170 56T (U)	2750 E41 (2)	3330 O3G (3)
2180 6K5 (L)	2760 5WD (L)	3340 OEQ (3)
2190 DMP (M)	2770 F9C (6)	3350 W8H (U)
2200 J5L (S)	2780 84S (D)	3360 QS5 (7)
2210 KGU (O)	2790 FGL (K)	3370 QMY (W)
2220 EAY (9)	2800 V77 (A)	3380 24F (P)
2230 3FH (8)	2810 KE6 (F)	3390 1DH (H)
2240 5Y8 (H)	2820 K1V (6)	3400 VUH (A)
2250 QU9 (N)	2830 3K7 (E)	3410 QD5 (M)
2260 CCJ (2)	2840 F9L (Q)	3420 Q7Y (D)
2270 YMF (N)	2850 K7V (X)	3430 1QF (6)
2280 5ED (5)	2860 E7A (M)	3440 OC7 (7)
2290 DV8 (H)	2870 P1T (J)	3450 NEU (5)
2300 79Y (E)	2880 FHU (H)	3460 TST (H)
2310 SHP (5)	2890 7EO (7)	3470 QCY (J)
2320 5GO (W)	2900 21X (S)	
2330 RUP (N)	2910 2GY (2)	

```
1480 IF CGD=1 THEN 1630
1490 REM *** CALCULATE GOAL DIFF ***
1500 FOR D=1 TO CGD-1
1510 FOR E=1 TO CGD-D
1520 A1=AGD(D):A2=AGD(D+E):TA11=A1*15-
14:TA12=TA11+1:TA13=TA12+1:TA21=A2*15-
14:TA22=TA21+1:TA23=TA22+1
1530 AB1=(ASC(TN$(TA11,TA11))*10000)+(
ASC(TN$(TA12,TA12))*100)+ASC(TN$(TA13,
TA13))
1540 AB2=(ASC(TN$(TA21,TA21))*10000)+(
ASC(TN$(TA22,TA22))*100)+ASC(TN$(TA23,
TA23))
1550 IF GD(A1)>GD(A2) THEN TP(A1)=TP(A
1)-1
1560 IF GD(A1)<GD(A2) THEN TP(A2)=TP(A
2)-1
1570 IF GD(A1)=GD(A2) AND HF(A1)+AF(A1
)>HF(A2)+AF(A2) THEN TP(A1)=TP(A1)-1
1580 IF GD(A1)=GD(A2) AND HF(A1)+AF(A1
)<HF(A2)+AF(A2) THEN TP(A2)=TP(A2)-1
1590 IF GD(A1)=GD(A2) AND HF(A1)+AF(A1
)=HF(A2)+AF(A2) AND AB1<AB2 THEN TP(A1
)=TP(A1)-1
1600 IF GD(A1)=GD(A2) AND HF(A1)+AF(A1
)=HF(A2)+AF(A2) AND AB1>AB2 THEN TP(A2
)=TP(A2)-1
1610 NEXT E
1620 NEXT D
1630 NEXT S
1640 FOR S=1 TO NT
1650 FOR T=1 TO NT
1660 IF TP(T)=S THEN PT(S)=T
1670 NEXT T
1680 NEXT S
1690 REM *** DISPLAY TABLE ***
1700 POKE 82,0:POKE 752,1
1710 ? "K"
1720 ? "  ";LN$;"  ";DATE$:?
1730 IF PRTOG=0 THEN 1760
1740 LPRINT :LPRINT
1750 GOSUB 370:PR$(15)=LN$:PR$(LEN(PR$
)+1,LEN(PR$)+4)="    ":PR$(LEN(PR$)+1)
=DATE$:LPRINT PR$:GOSUB 370
1760 PRINT "                    P  W  D
  L  F  A PTS"
1770 IF PRTOG=0 THEN 1800
1780 PR$(48,68)="HOME            AWAY"
:LPRINT PR$:GOSUB 370
1790 PR$(21,78)="P  W  D  L  F  A PTS
  W  D  L  F  A  W  D  L  F  A PTS GD"
:LPRINT PR$:GOSUB 370
1800 FOR T=1 TO NT
1810 G=PT(T)
1820 X=T:PC=1:GOSUB 180
1830 PRINT TN$(G*15-14,G*15);
1840 PR$(4,19)=TN$(G*15-14,G*15)
1850 X=PL(G):PC=20:GOSUB 180
1860 X=HW(G)+AW(G):PC=23:GOSUB 180
1870 X=HD(G)+AD(G):PC=26:GOSUB 180
1880 X=HL(G)+AL(G):PC=29:GOSUB 180
1890 X=HF(G)+AF(G):PC=32:GOSUB 180
1900 X=HA(G)+AA(G):PC=35:GOSUB 180
1910 X=PTS(G):PC=38:GOSUB 180
1920 IF PRTOG=0 THEN 2090
1930 X=HW(G):PC=43:GOSUB 210
1940 X=HD(G):PC=46:GOSUB 210
1950 X=HL(G):PC=49:GOSUB 210
1960 X=HF(G):PC=52:GOSUB 210
1970 X=HA(G):PC=55:GOSUB 210
1980 X=AW(G):PC=58:GOSUB 210
1990 X=AD(G):PC=61:GOSUB 210
2000 X=AL(G):PC=64:GOSUB 210
2010 X=AF(G):PC=67:GOSUB 210
2020 X=AA(G):PC=70:GOSUB 210
2030 X=PTS(G):PC=73:GOSUB 210
2040 X=GD(G):PC=77
2050 IF X<0 THEN PC=76
2060 IF X<-9 THEN PC=75
2070 GOSUB 210
2080 LPRINT PR$:GOSUB 370
2090 PRINT
2100 NEXT T
2110 POKE 82,2:POKE 752,0
2120 IF ASF=1 THEN 810
2130 GOSUB 170:GOTO 1040
2140 ? "K":POSITION 10,5:? "FIXTURE SE
ARCH"
2150 REM *** FIXTURE SEARCH ***
2160 POSITION 2,21:? "TEAM TO SEARCH..
"
2170 X=1:GOSUB 240
2180 TSF=1:GOTO 2550
2190 REM *** INPUT RESULTS ***
2200 ? "KENTER RESULTS  Y←←";:INPUT T$
:IF T$<>"Y" THEN 1040
2210 EFF=1
2220 IF HTF=1 THEN 390
2230 ? :? :? "HOW MANY RESULTS TO ENTE
R ";:INPUT NF
2240 IF NF=0 THEN 1030
2250 ? :? :? "PLEASE ENTER DATE  i.e S
AT 10/12/88":? :INPUT DATE$
2260 CTF=0:HTF=0:EFF=0
2270 ? "K  ";DATE$;"     ";NF;" FIXTUR
ES"
2280 FOR G=1 TO NF
2290 X=1
2300 POSITION 2,21:? "HOME TEAM......
 ";:GOSUB 240:HT=X:GOSUB 350:POSITION
1,G+2:? TN$(HT*15-14,HT*15)
2310 TRAP 2310:POSITION 2,21:? TN$(HT*
15-14,HT*15);" SCORE ";:INPUT HS:GOSUB
 350:POSITION 17,G+2:? HS
2320 POSITION 2,21:? "AWAY TEAM......
 ";:GOSUB 240:AT=X:GOSUB 350:POSITION
24,G+2:? TN$(AT*15-14,AT*15)
2330 TRAP 2330:POSITION 2,21:? TN$(AT*
15-14,AT*15);" SCORE ";:INPUT AS:GOSUB
 350:POSITION 20,G+2:? AS
2340 POSITION 2,21:? "IS THIS LAST FIX
TURE OK Y←←";:INPUT T$
2350 IF T$<>"Y" THEN POSITION 1,G+2:?
"

 ":GOTO 2300
2360 DHT(G)=HT:DHS(G)=HS:DAT(G)=AT:DAS
(G)=AS
2370 PL(HT)=PL(HT)+1:PL(AT)=PL(AT)+1
2380 HF(HT)=HF(HT)+HS:HA(HT)=HA(HT)+AS
2390 AF(AT)=AF(AT)+AS:AA(AT)=AA(AT)+HS
2400 IF HS>AS THEN HW(HT)=HW(HT)+1:AL(
AT)=AL(AT)+1:PTS(HT)=PTS(HT)+3
2410 IF AS>HS THEN AW(AT)=AW(AT)+1:HL(
HT)=HL(HT)+1:PTS(AT)=PTS(AT)+3
2420 IF HS=AS THEN HD(HT)=HD(HT)+1:AD(
AT)=AD(AT)+1:PTS(HT)=PTS(HT)+1:PTS(AT)
=PTS(AT)+1
2430 NEXT G
2440 POKE 752,1:? :? "        SAVING TO
 DISC":
2450 OPEN #1,9,0,"D:FIXTURES.DAT"
2460 PRINT #1;DATE$;C$;
2470 PRINT #1;NF;C$;
2480 FOR G=1 TO NF
2490 HT=DHT(G):HS=DHS(G):AT=DAT(G):AS=
DAS(G)
2500 PRINT #1;HT;C$;HS;C$;AT;C$;AS;C$;
2510 NEXT G
2520 PRINT #1:-1;C$;
2530 CLOSE #1
2540 ASF=1:GOTO 1250:REM GOTO TABLE CA
LC
2550 POKE 752,1:REM READ FIXTURE DATA
FROM DISK
2560 ? "K"
2570 OPEN #1,4,0,"D:FIXTURES.DAT"
2580 IF TSF=0 THEN PRINT LN$;" RESULTS
":? :?
2590 IF TSF=1 THEN PRINT LN$;" RESULTS
 FOR ";TN$(X*15-14,X*15):? :?
2600 IF PRTOG=0 THEN 2640
2610 LPRINT :LPRINT
2620 IF TSF=0 THEN LPRINT ,,"  ";LN$;"
 RESULTS":LPRINT
2630 IF TSF=1 THEN LPRINT ,"  ";LN$;"
RESULTS FOR ";TN$(X*15-14,X*15):LPRINT
 :LPRINT
2640 INPUT #1,DR$
2650 INPUT #1,NF
2660 FOR G=1 TO NF
2670 INPUT #1,HT,HS,AT,AS
2680 DHT(G)=HT:DHS(G)=HS:DAT(G)=AT:DAS
(G)=AS
2690 NEXT G
2700 IF TSF=1 THEN 2760
2710 IF FSF=1 AND DS$<>DR$ THEN 2920
2720 IF FSF=1 THEN FF=1
2730 PRINT DR$:PRINT
2740 IF PRTOG=0 THEN 2760
2750 LPRINT "   ";DR$
2760 FOR G=1 TO NF
2770 IF TSF=0 THEN 2800
2780 IF DHT(G)=X OR DAT(G)=X THEN 2800
2790 IF TSF=1 THEN 2870
2800 IF TSF=1 THEN ? :? :? DR$:?
2810 ? TN$(DHT(G)*15-14,DHT(G)*15);DHS
(G);"  ";DAS(G);"  ";TN$(DAT(G)*15-14
,DAT(G)*15)
2820 IF PRTOG=0 THEN 2870
2830 IF TSF=1 THEN LPRINT DR$,TN$(DHT(
G)*15-14,DHT(G)*15);DHS(G);"  ";DAS(G
);"  ";TN$(DAT(G)*15-14,DAT(G)*15)
2840 IF TSF=1 THEN 2870
2850 IF PRTOG=0 THEN 2870
2860 LPRINT ,,TN$(DHT(G)*15-14,DHT(G)*
15);" ";DHS(G);"   ";DAS(G);"   ";TN$(
DAT(G)*15-14,DAT(G)*15)
2870 NEXT G
2880 IF TSF=1 THEN 2920
2890 IF FF=1 THEN 2930
2900 PRINT :PRINT
2910 IF PRTOG=1 THEN LPRINT
2920 TRAP 2930:INPUT #1,A:IF A=-1 THEN
 2640
```

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◀ From Page 35

```
2930 IF FSF=1 AND FF=0 THEN POSITION 2
,10:? "KFIXTURES FOR ";DS$;" NOT FOUND
"
2940 CLOSE #1:TSF=0:FSF=0:FF=0
2950 GOSUB 170:GOTO 1040
2960 REM *** PRINTER TOGGLE ***
2970 IF PRTOG=0 THEN PRTOG=1:PRS$=" ON
 ":GOTO 1140
2980 IF PRTOG=1 THEN PRTOG=0:PRS$=" OF
F":GOTO 1140
2990 REM *** INITIALISE TABLE ***
3000 CLOSE #1:POKE 752.0:? "KTABLE DOE
S NOT EXIST .... INITIALISE":? :? :?
3010 ? "ENTER LEAGUE NAME ";:INPUT LN$
3020 ? :? :? "ENTER NUMBER OF TEAMS ";
:INPUT NT
3030 GOSUB 130:REM DIMENSION
3040 FOR G=1 TO NT
3050 PL(G)=0:HW(G)=0:HD(G)=0:HL(G)=0:H
F(G)=0:HA(G)=0:AW(G)=0:AD(G)=0:AL(G)=0
:AF(G)=0:AA(G)=0:PTS(G)=0
3060 PT(G)=G
3070 NEXT G
3080 FOR G=1 TO NT
3090 ? :? "ENTER TEAM ";G:PRINT "
        --------------↑←←←←←←←←←←←←←←
←";:INPUT T$
3100 IF LEN(T$)>14 THEN ? "K ERROR....
NAME OVER 14 CHARACTERS ":GOTO 3090
3110 FOR N=LEN(T$)+1 TO 15:T$(N,N)=" "
:NEXT N
3120 TN$(G*15-14,G*15)=T$
3130 NEXT G
3140 POKE 752,1:? :? :? "        SAVING
 TO DISC";
3150 OPEN #1,8,0,"D:TEAMNAME.DAT"
3160 PRINT #1,NT
3170 FOR G=1 TO NT
3180 T$=TN$(G*15-14,G*15)
3190 PRINT #1;T$;C$;
3200 NEXT G
3210 CLOSE #1
3220 OPEN #1,8,0,"D:FIXTURES.DAT":CLOS
E #1
3230 OPEN #1,8,0."D:TABHISTY.DAT":CLOS
E #1
3240 ASF=1:GOTO 1250:REM TABLE CALC
3250 REM *** ENTER TEAM DATA ***
3260 ? "KENTER/CHANGE TEAM DATA   N←←"
;:INPUT T$:IF T$<>"Y" THEN 1040
3270 ? "KCURRENT DATE :- ";DATE$
3280 ? :? "ENTER NEW DATE ";:INPUT DAT
E$
3290 ? :?
3300 FOR G=1 TO NT
3310 ? :? "K TEAM NO ";G;" ";TN$(G*15
-14,G*15):?
3320 TRAP 3310
3330 ? "PLAYED          ";:A=PL(G):GOSU
B 380:PL(G)=A
3340 ? "HOME WON        ";:A=HW(G):GOSU
B 380:HW(G)=A
3350 ? " ''  DRAWN      ";:A=HD(G):GOSU
B 380:HD(G)=A
3360 ? " ''  LOST       ";:A=HL(G):GOSU
B 380:HL(G)=A
3370 ? " ''  FOR        ";:A=HF(G):GOSU
B 380:HF(G)=A
3380 ? " ''  AGAINST    ";:A=HA(G):GOSU
B 380:HA(G)=A
3390 ? "AWAY WON        ";:A=AW(G):GOSU
B 380:AW(G)=A
3400 ? " ''  DRAWN      ";:A=AD(G):GOSU
B 380:AD(G)=A
3410 ? " ''  LOST       ";:A=AL(G):GOSU
B 380:AL(G)=A
3420 ? " ''  FOR        ";:A=AF(G):GOSU
B 380:AF(G)=A
3430 ? " ''  AGAINST    ";:A=AA(G):GOSU
B 380:AA(G)=A
3440 ? "POINTS          ";:A=PTS(G):GOS
UB 380:PTS(G)=A
3450 NEXT G
3460 CTF=0:ASF=1
3470 GOTO 1250:REM GOTO TABLE CALC
```

There's light for the Knight, but a grave problem follows

TIME once more more to dip into the mailbag and see what sound advice and welcome tips our readers have for fellow Atari adventurers. Although shortage of time and space means that it is not possible to deal with all of your letters, and that sometimes there may be quite a wait to see your own missive mentioned in these pages, do not despair.

I do try to get round to as many of your letters as I can so keep on writing in – the law of averages says you're bound to score sooner or later.

First out of the sack comes instant relief for all frustrated Knight Orc players, thanks to Andrew O'Hara of Eastfield in Cumbernauld. Although it was a little while ago now, Andrew has supplied a detailed solution of this challenging adventure, the first part of which you will find over the page.

In return, Andrew would like some help with Asylum, an adventure which I myself have rarely played, never having been a big fan of maze-based games.

The axe, gold and silver cards, stethoscope, bird costume, copper wire and battery are already in Andrew's possession, but if you can help him further, please phone him on Cumbernauld 721455 or write to him at 72 Ben Nevis Way, Balloch, Eastfield, Cumbernauld G68 9JA.

Arno Brouwer from the Netherlands is having a problem with the Guild of Thieves gravedigger who is getting very annoying, prohibiting Arno from digging a grave. Sorry, Arno, but the gravedigger is helping you in a way – you don't need to go digging in the cemetery. What you do need, though, is hanging from one of the yew trees nearby – and that is berries. Go get 'em – the gravedigger won't mind.

Another problem he has with the same adventure is the opaque case. For Arno and other adventurers, may I suggest that you look at your map and note the pattern of the locations surrounding the room with the case. It should remind you of the five-spot side on a die. Roll all the dice until they each show a five, pop them in the appropriately coloured slots and the case should open up for you.

According to Arno, it isn't my feet that are too big – it's the rest of my body that's too small! I'm not sure if that's a compliment or not!

Dave Gregory from Bracknell has had an Atari computer since last Christmas but is being driven round the bend by two adventures he bought – Cloak of Death and Quest For Eternity.

As I said in the July issue, I would not recommend these two games to anybody new to adventures. They are short on vocabulary and long on inflexibilty.

My plea for help with the adventures fell on deaf ears earlier this year mainly, I suspect, because few adventurers have persevered with these tough and frustrating puzzlers. I haven't either – my advice is to switch over to playing one of Level 9's cassettes if you really want to find out what a good modern adventure should be like.

THOMAS HOLZER'S TOP TEN

1. Dallas Quest
2. Gruds In Space
3. Mask of the Sun
4. The Pawn
5. Leather Goddesses of Phobos
6. Atlantic (German adventure)
7. The Dark Crystal
8. Time and Magik
9. The Seven Cities of Gold
10. The Adventure Writer

Gunslinger, from US Gold, is not an adventure I am familiar with but it comes highly recommended by Christopher Beard of Notts. Christopher has sent in a list of his worst, in addition to his favourite, adventures and has scathing words about Questprobe III which is number one in his list of dislikes and which he describes as "absolutely pathetic as well as impossible". You have been warned. Christopher knows a thing or two about Alternate Reality I and II, so if you want some help write to him at Millstone Cottage, 46 Beauvale, Newthorpe, Notts NG16 2EY – and don't forget to enclose a sae.

There's just room to say thanks for various hints and tips to Richard Morrison of Crewe (The Payoff), David Talbot of Dublin (The Worm In Paradise) and Thomas Holzer from Parkstone (his top ten appears here).

Until next month, keep your sword sharp and your lamp filled!

by

Rouloc



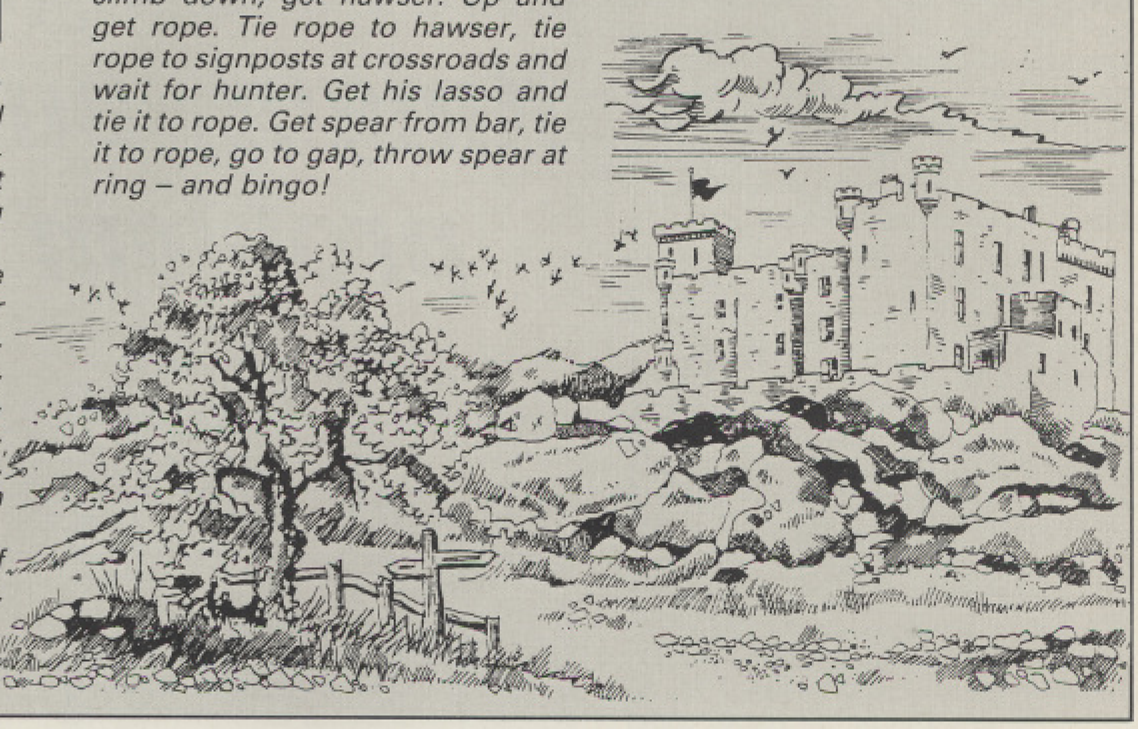
HINTS AND TIPS

Knight orc – Part 1

WEAR cloak, get halyard from flagpole, get tether from goat. Kill Green Knight's horse and get reins, get washing line from oak tree, get noose from gibbet, get everything from the well but the treasure.

Put welcome mat on thorn hedge and climb over. Cut Rapunzel's hair and get it. Go to castle, get note, throw it at drawbridge, get it again, go in and drop it. Go in again, unlock chest, open it and take cord. Go to hermit and give him the key. When his back is turned, despatch him and get his belt.

Go to well, tie all eight pieces of "rope" together, tie rope to roller, climb down, get hawser. Up and get rope. Tie rope to hawser, tie rope to signposts at crossroads and wait for hunter. Get his lasso and tie it to rope. Get spear from bar, tie it to rope, go to gap, throw spear at ring – and bingo!



Magical moments

Program: Time And Magik
Price: £19.95
Supplier: Mandarin Software, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.
Tel: 0625 878888

TIME and Magik is a welcome bargain package of three first-rate adventures from one of the country's leading exponents in the fantasy field, Level 9. This trilogy is one of the first releases by a new company, Mandarin Software, which has judged wisely in picking Level 9 products as its initial entry into the marketplace.

Level 9 has always offered good value for money and adventure-hungry gamesters will be well pleased with this latest crop.

The trilogy comprises Lords of Time, Red Moon and The Price of Magik and although none of the three is new, they are some of the best ever produced by Level 9. All have been updated.

Lords of Time involves you in a search, through various ages, for nine unlikely objects – a jester's cap, a dinosaur's egg, an olive branch, a dragon's wing and a teardrop, to name a few.

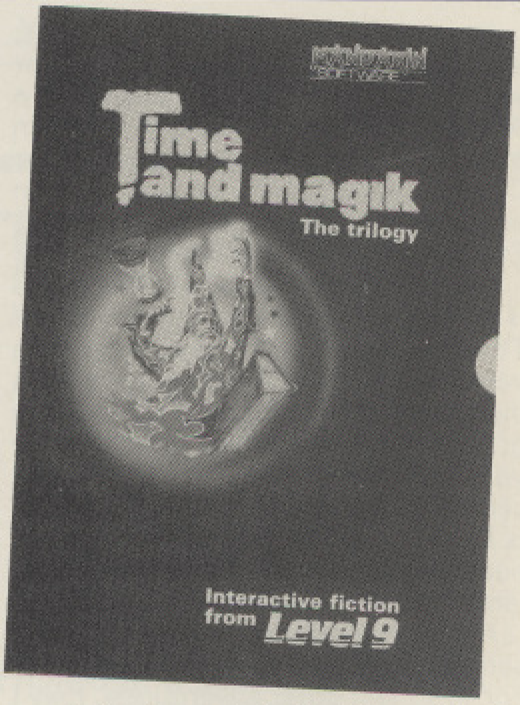
It seems that the evil Timelords have been trying to remould history in their favour and it has fallen to you to try and repair the rent in the fabric of history.

Via the time travelling device of a grandfather clock, the hunt will take you, in almost any order you like, through the Ice and Stone Ages, on across the times of Romans and Vikings, past Medieval and Tudor periods, right on up to the present then forward to the future and far future, nine ages in all.

Lords of Time happens to be one of my favourite Level 9 adventures, particularly because many of the puzzles are so enjoyably challenging and the theme is very neatly worked out.

Red Moon revolves around a crystal, the source of all magic, which has been stolen. It is your job to get it back. There are nine treasures to be collected along the way (note how Level 9 have a penchant for the number nine). Magic features prominently – there are a dozen spells available, most of which require a specific item for them to be effective. Red Moon won much acclaim on its original release, including being voted best adventure of 1985 by several magazines.

The Price of Magik is a direct sequel to Red Moon. The plot centres on your endeavours to defeat Mylgar, once a good sorcerer now gone bad. The adventure features an even stronger



magical element (with 18 spells to learn). The Price of Magik also has its own combat system and there are a goodly host of independent creatures which you may, given the right circumstances, command to do your bidding.

Time and Magik is unquestionably good value for money and no adventurer is likely to be disappointed with the volume of puzzles, locations, prose and fun that this trilogy offers.

Presentation	*8*
Atmosphere	*7*
Puzzlement	*9*
Value for money	*9*
Overall	*9*

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Even if you don't care a fig for Forth, think of all that lovely speed

EARLIER this year a computer magazine published a complete list of benchmark results covering a range of micros and languages. The Archimedes came out on top, but coming a close second was the ST. No real surprise there, but what language gave it this turn of speed, Fast Basic, Modula-2 or C? It was none of these. A public domain language called Fig-Forth took the honours.

Atari 8 bit owners will be pleased to know this fast and versatile language is now available for their machines. It may not be able to match the speed of the ST version but it can knock spots off Atari Basic.

Fig-Forth is one standard of the language Forth as defined by the American Forth Interest Group. Other standards include Forth-79, Forth-83 and polyForth, the former being implemented on the Atari as Go-Forth.

COLIN BLACKBURN takes a look at a recently expanded version of Forth, formerly available only as a public domain program

All are similar to each other in being very different to most other languages. Two features central to its design are the use of a stack and the idea of the *word*.

The stack is the route for all processing – it's a last in first out data structure which will be familiar to machine code programmers. You can think of it as a pile of numbers with only the top one being accessed at any one time.

However, Forth provides various ways to add, remove, do arithmetic on and jiggle about these numbers very quickly. The word is the basic unit of instruction, the core words of a Forth system are normally defined in machine code but most other words are made up of words themselves.

A program in Forth is merely a word which performs the desired function and is built from words which in turn are built from other words which in turn – well perhaps you get the general drift. An example of a word is shown in Figure I. If used it should be added to one of the editor screens. It will automatically list the next screen to the one last listed.

This extensibility makes Forth very powerful, as it allows the user to build his or her own language to suit a particular set of tasks.

I have already mentioned that Fig-Forth is traditionally a public domain language, in fact versions are available in many PD libraries for just a couple of pounds. However, Pulsar Software is selling its implementation for £14.95. So what do you get for your money? A manual is the most obvious benefit, but there are also some useful extensions to the basic language such as a mouse handler for a standard ST mouse.

The language comes on a double-sided disc, the first containing the language kernel in an AUTORUN.SYS file and all the DOS 2.5 files you need. The second side contains 134 Forth screens, each taking up 1k. Most are empty but a few contain word definitions for the various extensions you require. Those of you with mathematical minds will have worked out that the disc is formatted in enhanced density. This is tough on 810 owners, myself included.

I initially thought this may just be a quirk of the review copy, but after borrowing a 1050 drive I realised the language was designed with that device in mind.

For instance, the disc copier, which is part of the extensions, copies 134 screens rather than the 90 which would be found on a single density disc.

This can be altered fairly easily, but it is short-sighted on Pulsar's part as the disc will not even boot on an 810 drive. The A4 format manual is 45 sheets of duplicated typescript bound with one of those plastic slide-on spines. It hasn't been written as a guide for the beginner, but is simply a systematic list of all the Forth words with a few appendices on error messages and the like.

Rather hard on beginners

I would have preferred a little more detail in some of the word descriptions, but the author has recommended a couple of excellent books which will help the novice get to grips with the language. I will repeat the recommendations for those of you who would rather read about the language in detail before buying. They are: The Complete Forth by Alan Winfield (Sigma Books) and Starting Forth by Leo Brodie (Prentice Hall Books).

Although Forth can be used in an interpretive way, directly entering new words at the keyboard, for any real applications the words need to be saved to disc thus allowing them to be compiled. This means an editor is required and one is provided as one of the extensions. It is fairly simple but will allow screens to be entered.

Unfortunately, the Forth words I and

R are redefined by the editor; in practice this makes testing programs which use them difficult. The editor can be altered to get round this, and at the same time it can be improved by adding a few extra commands. But Pulsar should have provided a more comprehensive editor in the first place.

The screens I have mentioned are made up of 16 lines of 64 characters each. This 1k block conveniently fills a screen on an 80 column system, but the Atari's 40 columns make full screens look untidy since the lines wrap around.

One solution is to restrict lines to 32 characters, but this means that half the disc space is wasted. Pulsar should have considered breaking with the Forth 1k tradition and had screens of 16 lines by 32 characters to save problems later.

Printer left out in the cold

The Forth system itself seems to be a complete Fig-Forth implementation with the necessary Atari-specific words added. Graphics, sound commands and disc I/O are all supported, but annoyingly there are no words for sending any output to a printer. The appropriate words could be added by anyone with some knowledge of IOCB commands, which are covered by the language, but a beginner may run into problems.

There are a few minor bugs in the language. Occasionally the system seized up when I deliberately tried to take the top number off an empty stack. When the stack is empty an error should result if attempts are made to remove a value from it. This doesn't always happen with Fig-Forth. Also, screens with blank first lines don't always compile. Both bugs should present no problems if good programming practice is followed.

: N	The colon begins all word definitions, N is its name.
1	The number one is put on the top of the stack.
SCR	This variable holds the current screen number. Executing a variable puts the memory address on the stack rather than the value of SCR.
+!	Adds 1 on to the address. For example: SCR=SCR+1
L	Lists the screen whose value is in SCR and is a word defined in the editor.
;	The semicolon ends the definition.

Figure I: Example word used in Fig-Forth

Forth normally contains in-line assemblers for time critical definitions. Fig-Forth has the necessary words but contains no hint as to how the code should be entered. A small chapter in the manual would be very welcome since the textbooks on standard Forth are not usually machine specific.

Mouse or mice?

The most interesting extension to the core of the language is the inclusion of a mouse handler which can read the second joystick port when an ST mouse is plugged into it.

There are some restrictions on its use. Since it utilises the Pokey chip, sound channel 0 cannot be used if the mouse is enabled. Also the right mouse button is not read.

A simple sketch program is included on the disc and is a useful illustration of how to use the mouse. Unfortunately the documentation which accompanies it is a little sparse, and if you aren't familiar with Forth you will have problems.

I found the mouse handler an interesting feature but £24.95 seems a lot to pay for it. However, if you buy Forth and the handler for £35 the package seems to give value for money.

If the documentation was clearer for a novice and showed in clearer detail how to use the mouse from within your own Basic programs, it would be a superb buy. As it is, I would say it is more for the seasoned programmer.

The disc includes several programs – an editor, two disc copiers, the sketch routines and additional words supporting player-missile graphics and some programming tools. They are of varying use, but can easily be dropped from the disc to make space for your own words.

The screens containing these words are scattered over the entire disc, and it would have been better to have them all clumped at the lower screen numbers, allowing the rest of the disc to be used more easily by the programmer.

Finally, the disc has some of the words necessary to turn the language into Forth-79. This is not complete and omits the word J, but again, words such as this are easy to add once you have got to grips with the language.

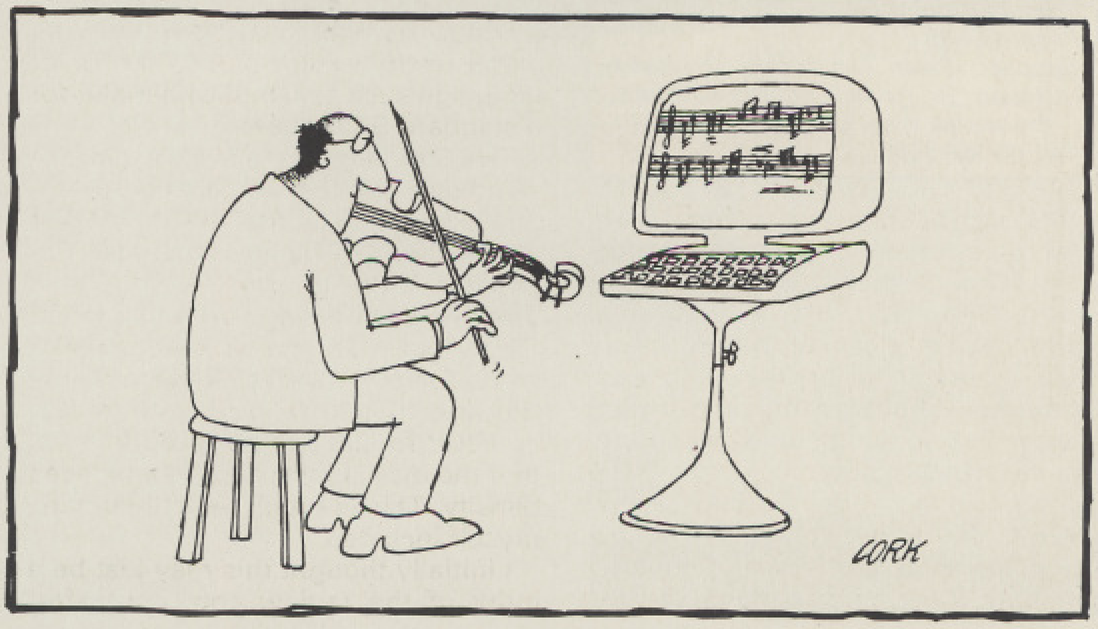
On balance perhaps not

So is Pulsar's Fig-Forth worth buying? As a language Forth is certainly worthwhile. Its speed, versatility and extensibility make it an excellent language for many applications. However, there are other versions available for the 8-bit machines. The public domain Fig-Forth's may not have manuals, but the discs tend to be crammed with documentation screens and useful – and not so useful – extensions.

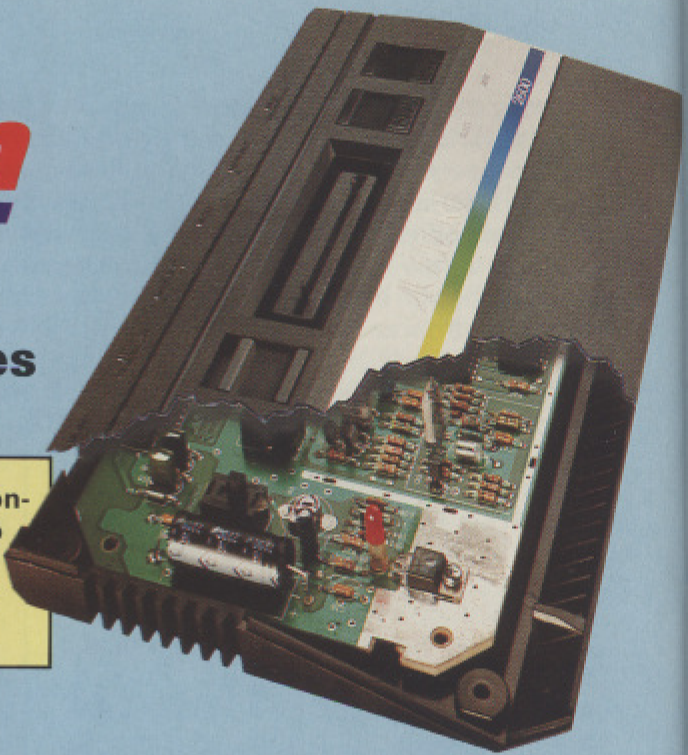
On the other hand, commercial Forths are also available. Go-Forth is a 79 standard with numerous extras, including two advanced editors and a very technical manual costing around £20.

Pulsar's Fig-Forth falls somewhere between these two at £14.95. However, a later revision with a more advanced editor, printer handler and availability of a single density disc version would offer excellent value for money.

Product: Fig-Forth disc
Price: £14.95 (£35 with an ST mouse)
Supplier: Pulsar Software, 4 Church Hill Road, East Barnet, Herts EN4 8TB.
Tel: 01-441 0799

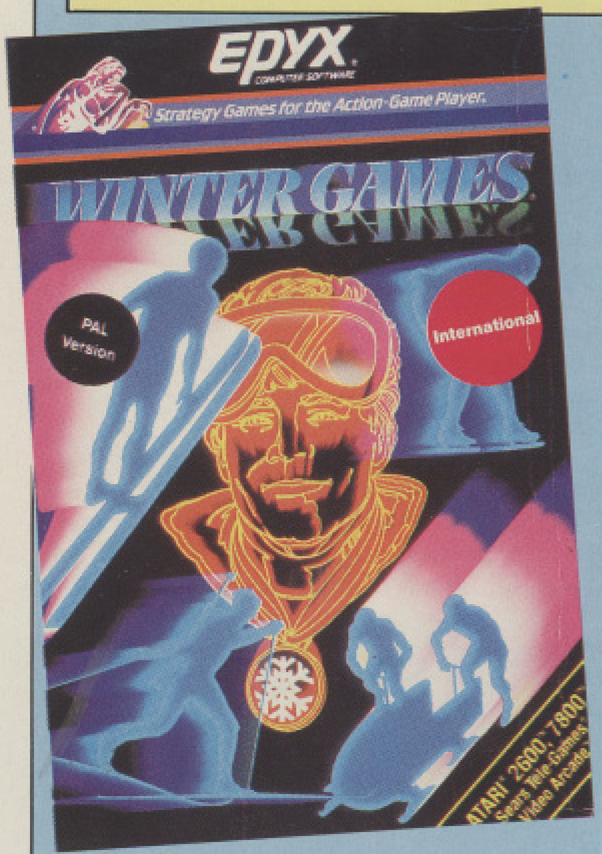


The VCS System



This month NEIL FAWCETT casts a critical eye over several game cartridges

IN the first part of this series I took a detailed look at the VCS 2600 and explained what it was. Now that you are all familiar with its workings and have decided whether or not you want to buy one you will be wondering what the software is like. So let's examine a few games and a couple of products aimed at children's education.



Sport in the snow

Product: Winter Games
Price: £14.99
Supplier: Palan Electronics, Prestwich House, Brunswick Industrial Estate, Brunswick Way, London N11 1HX.
Tel: 01-368 5545

THIS excellent rom cartridge from Epyx gives you the chance to compete in a series of seven exciting winter sports. Designed to be played by up to eight people it can be turned into a truly international contest with each individual representing a different nation, but no two people can choose the same nationality.

You can compete in pure speed events like skating or in speed-and-control events like the slalom, bobsled and luge. If these don't appeal you can test your digital dexterity on the ski jump or hot dog skiing. The nation that scores the highest points will take home the coveted gold medal.

Once you have selected the number of players and their nationality you choose the event you want to compete in: Slalom, bobsled, ski jump, biathlon, speed skating, hot dog or luge.

The object of the slalom is to make the best time down a course while weaving in and out of a set of gates marked by a pair of flags. Pressing the fire button starts your skier down the slope and you control his motion by moving the joystick left or right; this turning action can also help slow him down.

Each time you miss one of the 36 gates you incur a three second time penalty. Avoid hitting any objects or persons – especially the trees, which hurt – or you will be slowed down considerably. All time penalties are added at the end of a run.

As with the slalom, the two-man bobsled is a speed game. The idea is to negotiate a winding, twisty course in the fastest time possible. Don't go too fast though or you will end up crashing.

You can control your sled round the tight, banked corners by moving left and right. To speed up the sled you have to bob the joystick up and down in a constant rhythm. You can monitor your sled speed by the speed indicator at the bottom of the screen – the wider the bar the faster you are going.

The ski jump will demand your fullest concentration if you don't want to break your skier's legs. A split-screen shows your position and the hill below.

You will cover the greatest distance during your flight if you maintain a stable diagonal position – and don't forget to extend your skis when it comes to the landing.

The biathlon requires a combination of speed and accuracy in an event mixing cross-country skiing and shooting. When you finish the course it will be replaced by a firing range.

There are five targets which you must shoot as quickly as possible. A five second penalty is added for each target missed.

Speed skating is the simplest of the seven events. Rattle your joystick from left to right in rhythm to build up speed and the first across the line wins.

Hot dog is the ski acrobatics event and points are awarded for the most original and complicated jump made. I rattled the joystick like a madman in order to perform several sommersaults in a matter of seconds.

The final event is the luge, basically a one man bobsled event. You have three tries to make it quickly and safely down the chute.

The graphics and sound effects are – for a 2600 game – very good. What makes this cartridge great value for money is its playability. If you like sport simulations give this one a try.

Run in the sun

Product: Summer Games
Price: £14.99
Supplier: Palan Electronics, Prestwich House, Brunswick Industrial Estate, Brunswick Way, London N11 1HX.
Tel: 01-368 5545

AS with winter games, up to eight players can participate in this competition. Each can choose a different nation to represent. The seven different events are hurdles, swimming, skeet shooting, 100 yard dash, swimming relay, gymnastics and rowing.

First comes hurdles, where you

have to run as fast as you can over a course jumping as you go. Very simple, it shouldn't pose too much of a problem.

Swimming like the hurdles, is a race against time. You gain speed by hitting the fire button on each down stroke, just as your swimmer's arm reaches the water. Turn quickly at the end of the pool by tapping the joystick left before you hit the wall. Time your strokes and turns well and you'll splash home to victory.

The 100 yard dash is another speed event. Runners line up on two parallel tracks, as in the hurdles event. When the gun goes, press fire and away goes your sprinter. By waggling your joystick from side to side you can keep up a constant speed.

The swimming relay is basically an extension of the swimming race. Remember that each man on your



team swims two lengths of the pool. As the first swimmer nears the left side of the pool, try to anticipate his arrival and tap the joystick right to cause the next swimmer to dive in.

Only one athlete competes at a time in the gymnastics event. The winner is determined by the points gained in special sequences during his routine.

The initial screen shows your gymnast ready to start his run at the pommel horse. Press the fire button to start your man running towards the horse, and as he nears it press fire again to initiate a mount. Once mounted, your gymnast holds the pommel horse bars and circles the horse's axis in a rhythmic motion.

Various joystick movements will cause your man to perform different movements and it is these on which he is marked. Remember that you can only move the hand that is in the air, so time your movements very carefully.

The final event is the rowing. As with most of the other events you waggle your joystick from left to right to gain speed.

This is another superb sport simulation from Epyx. All the events are a pleasure to play and I spent hours attempting – and failing – to win a gold medal.

Let battle commence

Product: Commando
Price: £14.99
Supplier: Palan Electronics, Prestwich House, Brunswick Industrial Estate, Brunswick Way, London N11 1HX.
Tel: 061-834 4941

YOUR assignment is very simple – annihilate the enemy and destroy all their vehicles. When you get to the mega fortress you must battle your way inside and blow it up.

The main screen display is split into a number of sections. At the top is your score and at the bottom, running from left to right, a tally of grenades and lives remaining plus the level you are playing.

You are equipped with two types of weapon – a rapid-fire machine gun and three hand grenades. You have unlimited firing capacity with the gun and can fire in eight different directions – just aim the joystick and press the fire button.

Although you start the game with only three grenades you can easily pick up more – just walk over them as they lie scattered around the screen. To throw one you pull the joystick back and press the fire button.

As you move towards the fortress you have to avoid a multitude of enemy soldiers and obstacles like palm trees, bridges, barricades and foxholes.

At the end of each level – there are eight – you'll see the giant fortress. After you've killed a given number of



guards you'll be allowed to enter the building. Go through the doors as quickly as you can. When you have done this the megafortress will be destroyed and you'll go on to the next level.

Having completed all eight levels you start back at level one, but things will be a lot harder. At the beginning of a game you have three lives and an extra one is awarded for every 10,000 points.

Although the graphics aren't very good the game play is outstanding. I fully enjoyed playing Commando and recommend it to lovers of a good shoot-'em-up.

Turn to Page 44 ▶

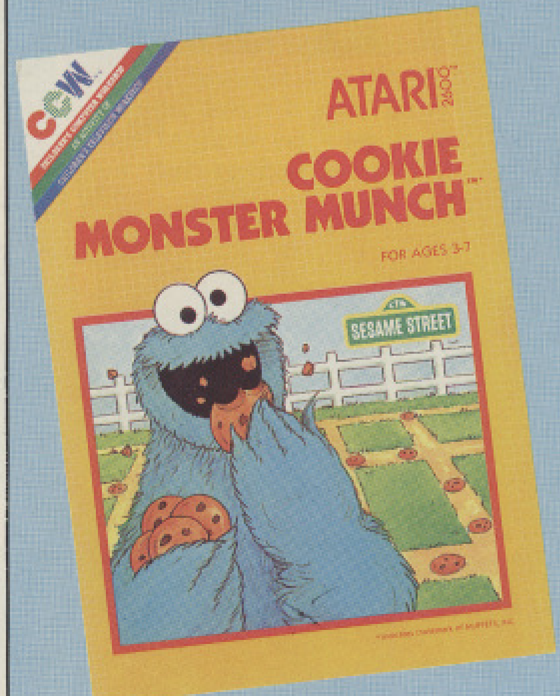
Here is a list of some of the 2600 rom cartridges available from Atari World, 11 Fennel Street, Manchester M4 3DU. Tel: 061-834 4941.

H.E.R.O
Kung-Fu Master
Demon Attack
Laserblast
Enduro
Beamrider
Ghostbusters
Seaquest
Dragster
Pro-Wrestling
Megamania
Cookie Monster Munch
The Kid's Controller (hardware)
Smurf
River Raid
Skin Diver
Atlantis
Boing
Boxing
Carnival
Cosmic ark
Centipede
California Games
Chopper Command
Egomania
Exocet
E.T.
Freeway
Fire Fighter
Grand Prix
Indy 500
Taboom
Keystone Capers
Moon Patrol
Midnight Magic
Nightmare

VCS 2600

Useful child's play

Product: Cookie Monster Munch and The Kid's Controller
Price: Kid's Controller £9.95 (with a free Cookie Monster Munch cartridge)
Supplier: Atari World, 11 Fennel Street, Manchester M4 3DU.
Tel: 061-834 4941



THE Kid's Controller is a numeric keypad designed to be plugged into the joystick port on a 2600. Several cartridges have been released to work in conjunction with it and each contains a colourful overlay card which fits neatly on the controller.

It has 12 large buttons which even the smallest of children's fingers can push with ease. But remember, only cartridges marked with a picture of the controller will work with it.

I chose Cookie Monster Munch because it is one of the most amusing children's games available. There are 10 levels of play designed to accommodate children of all ages.

In the first six games the child takes the role of Cookie Monster. Using the four arrows and cookie symbol – which are printed on the overlay card – you must traverse a garden maze looking for cookies to eat. Eventually the mazes get harder and you have a time limit in which to complete them.

After level six the child is the Cookie Kid, collecting cookies for a surprise party for the Cookie Monster. Unfortunately, every time he sees you pick up a cookie he will jump the garden fence and chase you. What you have to do is get to the cookie jar and place your cookie in it.

This sort of game can be helpful in a number of ways for children. Firstly, they will learn eye to hand coordination, which is important in reading and writing. Using the arrows on the controller also helps the children to learn the concept of up, down, left and right. The parents manual explains all this and prompts you at times to ask your child questions about the game.

The graphics are very good and the Controller and game together could be an invaluable aid in educating children.

Smurfing can be fun

Product: Smurf
Price: £7.95
Supplier: Atari World, 11 Fennel Street, Manchester M4 3DU.
Tel: 061-834 4941

THE treacherous Gargamel has captured the young Smurfette and is keeping her prisoner on a shelf high above his laboratory floor. To reach his castle laboratory Smurf must run and jump through fields, woods and caves. After this he must climb tall mountains and duck dangers on the forest paths including hawks, snakes, bats and spiders.

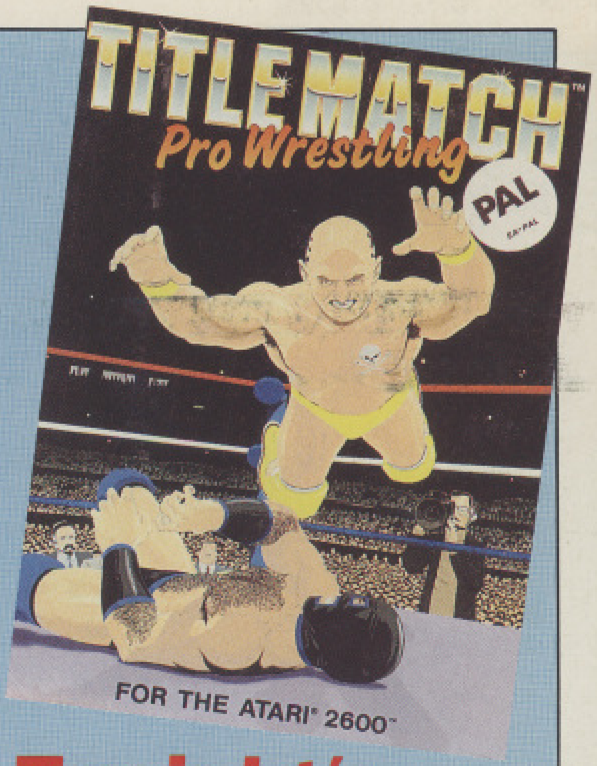
Once he reaches the laboratory Smurf must jump on the benches and tables until he is high enough to reach the shelf and free Smurfette.

You play Smurf and start the game outside your house. A number of obstacles are placed in your way and the game constantly gets harder.

Soon after you leave the forest area you will reach the mountains and this is when you really have to be quick if you want to survive. Each time your Smurf is attacked by an animal or falls over he grows more tired. Eventually he gets too tired to continue and another Smurf must take his place.

The game is great fun and has a very addictive quality. Pretty graphics and sound effects make this an ideal choice for children.





Tonight's the night

Product: Title Match Pro Wrestling
Price: £9.99
Supplier: Palan Electronics, Prestwich House, Brunswick Industrial Estate, Brunswick Way, London N11 1HX.
Tel: 01-368 5545

"...the screams of the crowd shake the arena as the title belt contenders circle one another. Mad Dog makes the first move smashing his fists into Skin Head's chest who gasps for air, then retaliates with a skin–cracking kick.

"Mad Dog growls and grabbing from behind drags Skin Head across the ring whipping him around in an airplane spin. Letting go he flys into the ropes and bounces back to meet Mad Dog's concrete forearm across his neck – a painfully executed clothesline..."

That is a scene-setter for a superb wrestling game – Title Match Pro Wrestling – in which you have the choice of four wrestlers to fight with: Mad Dog, Skin Head, Mr. Mean and Big Chief. All are merciless and given half a chance will crush you to a pulp.

You can use a number of different moves to defeat each opponent – bear hug, body slam, power lift and back drop being just a few. To bring any of them into effect you use a combination of joystick movements and fire button.

Each fighter has a specific strength, displayed at the top of the screen in bar form and what you have to do is sustain your strength while depleting your opponent's. Then you have to hit him with a finishing blow.

It's a little tricky to get used to the joystick/fire button combinations, but when you do the game becomes really enjoyable. Not one for the younger children, but great fun if you are into sport simulations.

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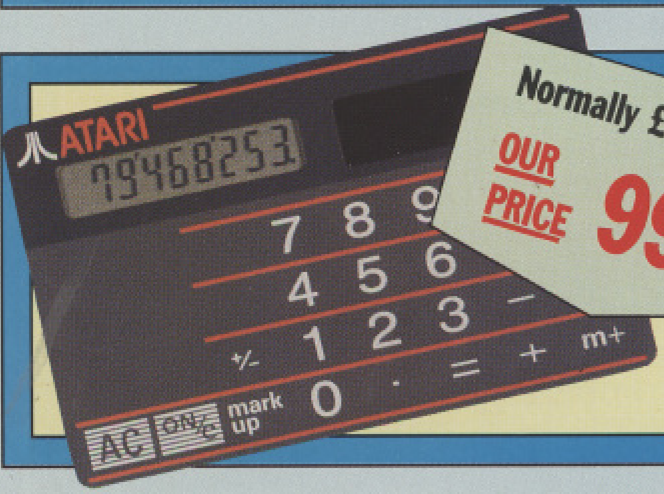
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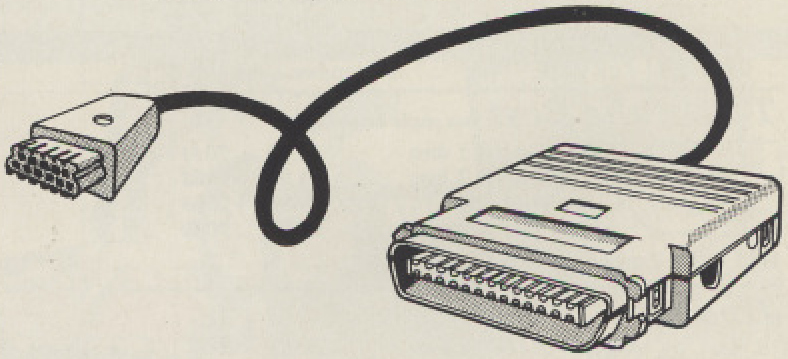
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◀ *From Page 15*

```
580 POKE 711,26:COLOR 32:PLOT 1,0
590 FOR I=N1 TO N2 STEP 2
600 COLOR 58:PLOT I,22
610 COLOR 59:PLOT I,21:COLOR 188:PLOT
I,20:PLOT I,19
620 COLOR 61:PLOT I,18:PLOT I,17
630 NEXT I
640 RETURN
650 REM MC DATA
660 REM SHAPE DATA
670 DATA 0,65,65,99,99,54,28,28,28,8,2
8,20,34,34,20,0,0
680 DATA 0,0,0,65,65,99,54,28,28,8,28,
20,34,34,65,0,0
690 DATA 0,0,0,0,0,65,119,28,28,8,28,2
0,34,34,20,0,0
700 DATA 0,0,0,0,0,0,54,127,93,8,28,20
,34,34,65,0,0
710 DATA 0,0,0,0,34,34,54,20,28,8,8,20
,34,20,0,0,0
720 DATA 0,0,0,0,0,34,34,54,20,8,8,20,
34,34,0,0,0
730 REM LOAD CHARACTER SET
740 DIM ML$(40)
750 M=128
760 REM POKE 106,M-1
770 CHBASE=256*(M)
780 RESTORE 810:FOR L=1 TO 36:READ A
790 ML$(L,L)=CHR$(A):NEXT L
800 A=USR(ADR(ML$),M):POKE 756,M
810 DATA 104,104,104,133,204,169,224,1
33,206,162,0,160,0,177,205,145,203,200
,208,249
820 DATA 164,204,200,132,204,164,206,2
00,132,206,232,224,5,208,232,96
830 FOR I=0 TO 7:READ D
840 POKE CHBASE+(26*8)+I,D:NEXT I
850 DATA 170,170,170,170,170,170,170,1
70
860 FOR I=0 TO 7:READ D
870 POKE CHBASE+(27*8)+I,D:NEXT I
880 DATA 170,44,40,40,40,170,170,170
890 FOR I=0 TO 7:READ D
900 POKE CHBASE+(28*8)+I,D:NEXT I
910 DATA 48,48,48,48,48,48,48,48
920 FOR I=0 TO 7:READ D
930 POKE CHBASE+(29*8)+I,D:NEXT I
940 DATA 60,60,60,60,60,60,60,60
950 FOR I=0 TO 7:READ D
960 POKE CHBASE+(30*8)+I,D:NEXT I
970 DATA 60,52,60,28,52,28,60,52
980 RETURN
990 REM TITLE SCREEN
1000 RESTORE 1370:FOR N=0 TO 25:READ A
:POKE 1600+N,A:NEXT N
1010 GRAPHICS 19:POKE 88,0:POKE 89,152
:POKE 87,3
1020 FOR N=0 TO 280:POKE 38912+N,0:NEX
T N
1030 POKE 560,64:POKE 561,6:POKE 710,1
72
1040 POKE 708,28:POKE 709,92:C=1:COLOR
 1
1050 RESTORE 1330
1060 FOR N=0 TO 63 STEP 4
1070 READ A:Y1=A:READ A:Y2=A:READ A:X1
=A:READ A:X2=A
1080 FOR Y=Y1 TO Y2:FOR X=X1 TO X2
1090 PLOT X+6,Y:GOSUB 1280:GOSUB 1300
1100 NEXT X:NEXT Y
1110 IF N=44 THEN PLOT 22,4:GOSUB 1280
:GOSUB 1300:PLOT 23,5:GOSUB 1280:GOSUB
 1300:PLOT 24,6:GOSUB 1280
1120 IF N=44 THEN GOSUB 1300
1130 NEXT N
1140 FOR P=4 TO 10
1150 POKE 87,2:POSITION 17,P:? #6;"MaN
iA"
1160 GOSUB 1210:GOSUB 1280:SOUND 0,128
-P,14,14:SOUND 1,127-P,14,14
1170 NEXT P
1180 FOR N=0 TO 14:GOSUB 1210:NEXT N
1190 FOR N=14 TO 0 STEP -1:GOSUB 1210:
NEXT N
1200 RETURN
1210 STORE=PEEK(711):POKE 711,PEEK(710
):POKE 710,PEEK(709):POKE 709,PEEK(708
)
1220 POKE 708,STORE:SOUND 0,PEEK(708)+
24,14,N
1230 SOUND 1,PEEK(708)+23,14,N
1240 D1=20:GOSUB 1280
1250 POKE 54277,N
1260 RETURN
1270 REM DELAY LOOP
1280 FOR D=1 TO D1:NEXT D:C=C+1:IF C=4
 THEN C=1
1290 RETURN
1300 SOUND 0,X+Y+40,14,14:SOUND 1,X+Y+
39,14,14
1310 COLOR C:RETURN
1320 REM LETTER DATA
1330 DATA 0,6,2,1,0,0,3,6,1,2,6,6,3,3,
3,6
1340 DATA 4,6,10,10,3,3,8,12,0,2,8,8,0
,2,12,12
1350 DATA 0,6,14,14,0,0,15,18,1,2,18,1
8,3,3,15,18
1360 DATA 0,6,20,20,6,6,21,23,0,6,24,2
4,0,0,21,23
1370 DATA 112,112,112,72,0,152,8,8,8,8
,8,8,8,8,7,7,7,7,7,7,7,7,7,65,64,6
1380 REM FIRE ROCKET
1390 IF PEEK(53255)<>8 THEN RETURN
1400 POKE 53278,0
1410 X=2*(INT(HP/8)-6)+2
1420 F=F+1
1430 FOR I=20 TO 4 STEP -1
1440 POKE 708,INT(RND(1)*255)
1450 COLOR 61:PLOT X,I-2:PLOT X,I-3
1460 COLOR 62:PLOT X,I:PLOT X,I-1
1470 GOSUB 1580:IF FLAG=1 THEN GOSUB 2
180:HIT=HIT+1:POP :GOTO 1510
1480 SOUND 0,128-I,8,I-4
1490 NEXT I
1500 COLOR 62:PLOT X,1:PLOT X,2
1510 FLAG=0:SOUND 0,0,0,0:IF HIT=3 THE
N HIT=0:GOSUB 1980
1520 FOR I=20 TO 1 STEP -1
1530 POKE 708,INT(RND(1)*255)
1540 COLOR 32:PLOT X,I:NEXT I
1550 IF F=20 THEN GOSUB 1730:N1=0:N2=3
8:GOSUB 590:GOTO 380
1560 RETURN
1570 REM COLLISION
1580 IF PEEK(53252)=4 AND PEEK(VP0)<15
0 THEN GOSUB 1620:POKE 53278,0:RETURN
1590 IF PEEK(53253)=4 AND PEEK(VP1)<15
0 THEN GOSUB 1660:POKE 53278,0:RETURN
1600 IF PEEK(53254)=4 AND PEEK(VP2)<15
0 THEN GOSUB 1700:POKE 53278,0:RETURN
1610 RETURN
1620 POKE BIRD0,0:FOR J=0 TO 14:POKE 7
04,PEEK(704)+1:SOUND 0,50-J,14,14-J
1630 NEXT J
1640 POKE 53248,0:FLAG=1
```

Turn to Page 50 ▶

LINE	CHSUM	LINE	CHSUM	LINE	CHSUM
10	CP1 (Y)	400	NA1 (M)	790	GVC (C)
20	CP2 (3)	410	XET (A)	800	L6Y (U)
30	CP3 (X)	420	AA2 (9)	810	6OR (D)
40	CP4 (4)	430	QQA (X)	820	FG5 (1)
50	H58 (Y)	440	KUR (F)	830	DLJ (G)
60	XG4 (A)	450	SF2 (O)	840	U4U (1)
70	EE6 (D)	460	W7E (G)	850	XM6 (T)
80	RMK (X)	470	U4F (T)	860	DYJ (P)
90	MJA (G)	480	MVP (O)	870	UKU (S)
100	J3U (7)	490	UYV (J)	880	VXT (M)
110	S17 (4)	500	WJ3 (U)	890	ECJ (Y)
120	QW7 (M)	510	QNC (F)	900	TRV (J)
130	D7S (U)	520	D3W (5)	910	K1G (P)
140	DCS (Q)	530	TUS (2)	920	DGK (S)
150	VLP (T)	540	MVD (Y)	930	U6V (P)
160	S2G (L)	550	QEP (9)	940	HWN (L)
170	SN3 (V)	560	RX1 (7)	950	DUK (Y)
180	836 (E)	570	6HC (G)	960	U4V (H)
190	N25 (7)	580	ODR (A)	970	K9J (D)
200	5Q1 (1)	590	A32 (A)	980	S6E (8)
210	AC5 (G)	600	2GH (A)	990	EO1 (A)
220	TMR (4)	610	18P (L)	1000	NLY (8)
230	VUJ (1)	620	MY6 (X)	1010	VE8 (2)
240	WOJ (7)	630	NU6 (T)	1020	6FY (X)
250	W5J (1)	640	RPA (Q)	1030	3MS (8)
260	N1J (T)	650	DGX (V)	1040	859 (9)
270	FHW (3)	660	DLX (P)	1050	XVS (P)
280	98H (O)	670	Q58 (M)	1060	ACG (S)
290	CKF (V)	680	N5L (C)	1070	3M6 (C)
300	S7S (E)	690	KYA (9)	1080	8LC (D)
310	SF1 (4)	700	HXR (K)	1090	6FK (N)
320	D3U (9)	710	E9J (6)	1100	519 (W)
330	X8Q (1)	720	9Q1 (M)	1110	MMX (M)
340	DCU (G)	730	D7Y (W)	1120	KJ8 (4)
350	TO7 (8)	740	TY4 (2)	1130	NCS (5)
360	RX7 (1)	750	DPG (2)	1140	3GF (U)
370	DQU (F)	760	DLY (9)	1150	EQV (R)
380	A8P (2)	770	1P9 (C)	1160	U2N (9)
390	UX5 (W)	780	DF7 (R)	1170	NQS (F)

Get it right!

LINE	CHSUM				
1180	7HR (7)				
1190	M3F (M)				
1200	VKK (H)	1570	EON (3)		
1210	FXD (O)	1580	JEN (G)	1940	PA1 (K)
1220	EN5 (V)	1590	JRN (3)	1950	PGS (D)
1230	JF1 (5)	1600	JJN (F)	1960	H4A (6)
1240	6E1 (U)	1610	W4K (8)	1970	EHN (5)
1250	Q92 (W)	1620	YGX (7)	1980	31K (F)
1260	VXK (R)	1630	NQS (4)	1990	KCV (8)
1270	DMN (X)	1640	7JF (7)	2000	TA6 (1)
1280	RKA (T)	1650	D8X (F)	2010	A1C (9)
1290	W4K (V)	1660	YR5 (7)	2020	CSJ (D)
1300	K9Y (Y)	1670	NYS (5)	2030	6QA (2)
1310	E2E (1)	1680	7SK (1)	2040	31X (P)
1320	DFN (6)	1690	DJF (U)	2050	DKY (U)
1330	RRS (9)	1700	H3O (G)	2060	82S (T)
1340	6XT (4)	1710	7FP (5)	2070	LRN (A)
1350	6K2 (2)	1720	D7X (E)	2080	LU5 (9)
1360	5S9 (X)	1730	9XQ (C)	2090	LWN (T)
1370	FR4 (Y)	1740	7SD (K)	2100	LSV (U)
1380	DTN (T)	1750	SDM (H)	2110	8SP (A)
1390	73K (X)	1760	WKK (Q)	2120	XR9 (N)
1400	Q58 (R)	1770	E8N (L)	2130	8OS (N)
1410	75T (Q)	1780	UOC (R)	2140	RU6 (T)
1420	KRD (E)	1790	QDC (E)	2150	MUO (4)
1430	H94 (6)	1800	P55 (N)	2160	VTL (3)
1440	JQD (D)	1810	9SL (X)	2170	DHP (7)
1450	9JF (T)	1820	CXS (H)	2180	74C (9)
1460	YWF (K)	1830	SJE (2)	2190	O3K (3)
1470	Y7V (8)	1840	SNN (M)	2200	VKL (4)
1480	9TF (4)	1850	FMS (T)	2210	D8P (O)
1490	NSS (4)	1860	M6Q (N)	2220	3CO (U)
1500	Y87 (8)	1870	ECE (4)	2230	RS6 (1)
1510	5E4 (A)	1880	H49 (K)	2240	NSF (V)
1520	GY4 (3)	1890	2P3 (J)	2250	5YC (9)
1530	JSD (8)	1900	D8L (Y)	2260	DP8 (M)
1540	YX4 (O)	1910	CQE (O)	2270	Y2L (M)
1550	FPE (O)	1920	DWA (3)	2280	Y89 (8)
1560	WAK (6)	1930	G5A (S)	2290	PTW (J)

◀ From Page 49

```
1650 POKE HP0,0:RETURN
1660 POKE BIRD1,0:FOR J=0 TO 14:POKE 7
05,PEEK(705)+1:SOUND 0,50-J,14,14-J
1670 NEXT J
1680 POKE 53249,0:FLAG=1
1690 POKE HP1,0:RETURN
1700 POKE BIRD2,0:FOR J=0 TO 14:POKE 7
06,PEEK(706)+1:SOUND 0,50-J,14,14-J:NE
XT J
1710 POKE 53250,0:FLAG=1
1720 POKE HP2,0:RETURN
1730 POSITION 16,23:? #6;"GAME OVER";
1740 IF PEEK(53279)<>7 THEN RETURN
1750 IF STRIG(0)=1 THEN 1750
1760 RETURN
1770 REM MC DATA FOR BIRD ANIMATION
1780 DATA 104,169,7,160,195,162,136,32
,92,228,96,238,148,137,173,148,137,205
,13,6
1790 DATA 240,3,76,98,228,174,0,6,189,
136,137,170,142,172,137,169,0,141,148,
137
1800 DATA 173,4,6,201,1,208,26,169,0,1
33,203,169,148,133,204,172,10,6,173,7
1810 DATA 6,141,0,208,174,172,137,32,1
49,137,238,10,6,238,0,6,173,0,6,201
1820 DATA 6,208,5,169,0,141,0,6,173,5,
6,201,1,208,26,169,0,133,203,169
1830 DATA 149,133,204,174,172,137,172,
11,6,173,8,6,141,1,208,32,149,137,238,
11
1840 DATA 6,173,6,6,201,1,208,26,169,0
,133,203,169,150,133,204,174,172,137,1
72
1850 DATA 12,6,173,9,6,141,2,208,32,14
9,137,238,12,6,32,173,137,173,10,6
1860 DATA 201,154,208,8,169,0,141,10,6
,32,5,138,173,11,6,201,154,208,8,169
1870 DATA 0,141,11,6,32,16,138,173,12,
6,201,154,208,11,141,12,6,169,0,141
1880 DATA 12,6,32,27,138,76,98,228,0,1
7,34,51,68,85,102,119,136,153,170,0
1890 DATA 0,169,0,141,147,137,189,0,14
4,145,203,232,200,238,147,137,173,147,
137,201
1900 DATA 17,208,239,96,0,206,8,6,24,1
65,19,106,176,6,238,8,6,238,8,6
1910 DATA 238,7,6,24,165,19,106,176,6,
206,7,6,206,7,6,238,9,6,24,165
1920 DATA 20,201,128,144,6,206,9,6,206
,9,6,173,7,6,32,247,137,141,7,6
1930 DATA 173,8,6,32,247,137,141,8,6,1
73,9,6,32,247,137,141,9,6,96,201
1940 DATA 200,208,3,169,199,96,201,45,
208,2,169,46,96,169,0,162,0,157,0,148
1950 DATA 232,208,250,96,169,0,162,0,1
57,0,149,232,208,250,96,169,0,162,0,15
7
1960 DATA 0,150,232,208,250,96
1970 REM ALL BIRDS HIT
1980 POSITION 16,23:? #6;"BONUS!!";
1990 SCORE=SCORE+(LEVEL*100)-10:GOSUB
2180
2000 N1=16:N2=30:GOSUB 590:F=21
2010 FOR I=0 TO 38 STEP 2
2020 LOCATE I,17,L:IF L<>32 THEN F=F-1
2030 SOUND 0,I+128,14,10
2040 NEXT I:SOUND 0,0,0,0
2050 GOSUB 1280:POSITION 16,23:? #6;"
 ";
2060 COL=COL+1:IF COL=12 THEN COL=1
2070 POKE HP0,INT(RND(1)*160)+40
2080 POKE HP1,INT(RND(1)*160)+40
2090 POKE HP2,INT(RND(1)*160)+40
2100 LEVEL=LEVEL+1:IF LEVEL=5 THEN LEV
EL=4
2110 POKE SPEED,5-LEVEL
2120 POSITION 6,23:? #6;LEVEL;
2130 COL=COL+1:IF COL=12 THEN COL=1
2140 POKE 704,(COL*16)+10:POKE 705,(CO
L+1)*16+12:POKE 706,(COL+2)*16+14
2150 POKE BIRD0,1:POKE BIRD1,1:POKE BI
RD2,1
2160 RETURN
2170 REM INCREASE SCORE
2180 SCORE=SCORE+10
2190 POSITION 33,23:? #6;SCORE;
2200 RETURN
2210 REM CHANGE LEVEL/START GAME
2220 LEVEL=1:HIT=0
2230 POSITION 0,23:? #6;"LEVEL 1    PR
ESS SELECT OR START         ";
2240 CONSOL=PEEK(53279):IF CONSOL=7 TH
EN 2240
2250 IF CONSOL=6 THEN RETURN
2260 IF CONSOL=5 THEN LEVEL=LEVEL+1:D1
=10:GOSUB 1280
2270 IF LEVEL=5 THEN LEVEL=1
2280 POSITION 6,23:? #6;LEVEL;
2290 GOTO 2240
```

HOW MANY REVIEWS ARE SUFFICIENT?

I'M writing to you to complain about the games reviews in your magazine. There simply aren't enough of them and they are too short. A vast majority of Atari owners use their computer solely for games, so why have some of your recent issues had so few as two or three reviews?

There are many more games available than you review. I have never seen reviews of International Karate, Eidolon, Scooter, Ballblazer, Spellbound, Amaurote, Chimera or Koronis Rift. You should review at least six games a month and give them a full page with loads of screen shots.

A game like Zybex deserves at least six pages on it, not just the one you gave it. In the August issue you only reviewed four games and the best of them, Tanium, didn't even get a screen shot – pathetic!

However, I am glad to see that Atari User *is getting more game-biased with regular hints, tips and maps. I think you should also include a hi-score chart, best music chart and have many more interviews with programmers. You must get more involved with the software houses and more involved with Atari games. It will pay off.* – **Robert Stuart, Irvine, Strathclyde.**

● Well Robert, that was a lot you got off your chest, wasn't it? Nearly all the games you have mentioned have been reviewed in *Atari User*. And those that haven't are too old for us to take a look at.

If we dedicated more pages a month to games reviews we would lose out on pages for utility and game programs. And according to our reader survey, most of you use your computer for programming and other serious tasks.

We try our best to keep up to date with reviews, and we can safely say that our reviews department gets the games to us well on time. If six new games came out every month we would look at them all.

Now on to the other points you made. If we included a best hi-score chart and a best music chart we would end up spending all our time compiling them and none on writing *Atari User*.

And that would upset an awful lot of readers.

As to our involvement in Atari games, we do our best but in the end it's up to the software houses to make their minds up whether or not a program is going to be released.

New section approved

THANK you for the new 2600 section of Atari User *magazine. I have for a few years now owned a 2600 VCS system which I use to keep my children busy on while I program away on my 8 bit Atari system.*

The chance to read about a game before I go out and buy it for them is wonderful. Thank you again for the new section and keep up the good work. – **Les Manck, Teesville, Cleveland.**

Saga of that Dodgy Dos

THERE is something mind-boggling about the long running saga of the new Atari Dos-XE, reviewed in the August issue of Atari User.

Firstly, it is incredible that it should take longer to write the Dos than it took to manufacture the hardware.

Secondly, it appears from the article that you need to access several menu screens to perform simple operations. Considering the only feature Dos 2.5 lacks, compared to Dos-XE, is the ability to access 180k of data, how long will it be before a Dos 2.6 appears to replace Dos-XE? – **P. C. Feash, Wokingham, Berks.**

● The appearance of a Dos 2.6 would be welcomed by most owners of the XF-551 disc drive. Dos-XE isn't the friendliest Dos, whereas 2.5 is one of the easiest to use.

However, as the review stated, you could always use SpartaDos with the drive and then you get the best of both worlds. High speed, extra capacity and user-friendliness – what more could you ask for?

BIGGEST IN THE WORLD?

I SEE from several letters and news reports in Atari User *that Atari UK is planning to support the 8 bit computer properly. I feel that Atari has left it a little late to help the lifespan of the XL/XE micros.*

It is and always will be the best 8 bit computer to be sold in the UK. This may well be a bold statement, but you only have to take a look at the last 10 years to see what I mean.

Since the first day the old 400 computer appeared in the High Street stores it has never had any advertising behind it.

Atari has never advertised the 8 bit micro in any trade magazines or on TV or even in Atari User. *Yet the computers have still sold.*

Now why is this? Could it be that the word soon spread about how well made they are? All I know is that Atari has never lifted a finger to support the 8 bit in the UK.

So, here we are in the late 1980s and all of a sudden Atari is saying what a great little computer it is, let's open some game centres for it.

If this new advertising campaign of Atari's does inject new life and popularity into the 8 bit I for one will be very happy about it. I have owned my old 800 for nine years now and I plan to own it for another nine.

To finish off with I was wondering if you can help me with a little bet I have with a friend.

After looking through all the Atari specific publications I have come to the conclusion that you are the biggest 8 bit Atari magazine in the world. My friend says that you aren't. Are you or aren't you? – **Kimberley Jenkins, Sutton Coldfield, Birmingham.**

● Well Kimberley, you did have a lot to say didn't you. As to whether we are the biggest 8 bit specific magazine in the world, we don't really know. But after looking at the other UK and American magazines for the Atari micros we do appear to be the biggest.

Commander boot error

I HAVE owned my Atari 65XE computer and tape deck since Christmas of last year and I have been very pleased with its performance. I have just bought a new game from Star

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Choice Software called Commander. The tape has two games on it – Tank Commander and Submarine Commander.

They are both very good games and I enjoy playing them very much. My problem is that nearly every time I try to load one of them I get a boot error.

Is there anything I can do to cure this problem as I would like to know what is causing it? – **Mark Metcalf, Rushden, Northants.**

● Unfortunately Mark, there isn't a definite solution to your problem. All we can recommend is that you have the heads of your tape deck cleaned. Also keep your serial I/O cable away from any mains leads.

You could try fast-winding through your tape and then re-winding it to make sure the tape is tensioned.

Unfortunately, tape decks are a unpredictable medium for game storage and the more they are used the worse they get when it comes to loading.

Cause for complaint

THERE's a term over here in Australia for the English – whinging pommies. Coming from England myself, I have always argued against this, until now.

When I read the mailbag in the August 1988 issue of Atari User *there were four lengthy letters complaining about the lack of software. But have you ever thought about the sofware shortages over here?*

Budget-priced games are non-existent so thank goodness the XE Games System came out. Before that the nearest place that knew what an Atari home computer was is three to four hours drive away.

I know Atari UK has nothing to do with Atari Australia, but do you think someone could contact Australia and tell them how to run a computer company?

Surely it's not too hard to convince someone that the Atari 8 bit is better than any other computer. Even if that person happens to be an ozzie called Bruce! – **Steven Amor, Pine Rivers, Queensland, Australia.**

● It would appear that the Australian 8 bit Atari users are having the same problems we in the UK are having. But don't despair Bruce – sorry Steven – hopefully help is on its way very soon.

Manager modified

£10 LETTER

I WAS very pleased with the article in the June issue of Atari User *about using HFM data files on word processors. I learned a lot about the way the Home Filing Manager program is structured, and because of this I have sent in some modifications to the original program.*

Modifications to take into account for the marked cards are as follows:

```
620 FOR X=3 TO SE*2+2 STEP 2
622 STSECT(R)=ASC(B$(X,X))+(A-
SC(B$(X+1
,X+1))-
128*(ASC(B$(X+1,X+1))>3))*256-
:R
=R+1:NEXT X
625 IF SECT=348 THEN 640
630 GOSUB 50: FOR X=1 TO TE*2
STEP 2
635 STSECT(R)=ASC(B$(X,X))+(A-
SC(B$(X+1
,X+1))-
128*(ASC(B$(X+1,X+1))>3))*256-
:R
=R+1:NEXT X
670 DAT$(1)=" ":DAT$(MEM)="
":DAT$(2)=DAT$: IF PASS=1 THEN
DAT$(1,18)=TEMP$: I=77
```

In addition to these, if you want to have the option to select a particular card to transfer type these changes in:

```
505 POSITION 4,10:?"CHOOSE
CARDS BEFORE TRANSFER ?": G
OSUB 1230: CH=CH
681 IF CH=0 THEN 690
683 FOR DE=16 TO 19: POSITI
ON 1,DE:?"
                          ":NEXT
 DE:RD=1:REM 38 SPACES
685 GOSUB 30:GOSUB 690
687 IF CH=0 THEN I=I-38:NEX
T X
689 IF CH=0 THEN 725
725 IF I<=39 THEN PASS=PASS
-1:ST=ST+20:GOTO 820+10*(TE
=SE)
1200 GOSUB 1250:POSITION 1,
8: ?C$(3,40)
1210 POSITION 10,10: ?"TRAN
SFER CARD ?"
1220 POSITION 10,12: ?"Yes
or No"
1230 GOSUB 70: IF KEY=89 OR
 KEY=121 OR KEY=78 OR KEY=1
10 THEN CH=(KEY=89)+(KEY=12
1): GOTO 1250
1240 GOTO 1250
1250 FOR DE=8 TO 12 STEP 2:
POSITION 1,DE: ?"

 ":NEXT DE:RETURN
```

*The reasons for the changes are that you can mark cards when searching for a word or item. The result is that the sector number of the marked cards is incremented by 32,768 (128*256). You have to take this into account or the program will crash when it encounters marked cards.* – **GH. De Graeve, Overijse, Belgium.**

● Thanks for the help. If any of our other readers have any modifications for other programs we have printed send them in. You too, could win a tenner for your efforts.

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Get your pens out, start writing and you could be one of the winners. The address:

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Atari User
Europa House
Adlington Park
Adlington
Macclesfield SK10 4NP

Zeppelin hits the spot

IN the March 1988 issue of Atari User *there was a superb article about Zeppelin games. After reading it I promptly went out and bought them – Zybex and Speed Ace.*

They are two of the best games I have ever seen on the Atari 8 bit, and I would like to take this opportunity to thank Zeppelin for its great programs.

Finally, could you please tell me if it is planning to release any more games for the Atari? – **Kevin Cartlidge, Anlaby, Hull.**

● We got in touch with Brian Jobling – head of software development at Zeppelin and author of the two games you mentioned – and passed on your kind comments.

He told us that the company will be producing as many new games as possible for the 8 bit Atari. The next release, due any time, will be called Draconus – see the article on Page 28 of this issue.

Gallup Software Chart

THIS MONTH	LAST MONTH	TITLE (Software House)	COMMENTS	PRICE
1	△ 2	**GREAT AMERICAN ROAD RACE** *Firebird*	Ten drivers await you in this race crossing the USA. Beware of the police, your speed and the obstacles.	1.99
2	●	**GAUNTLET** *Kixx*	Now re-released at a budget price, it is well worth the money. A classic with a Deeper Dungeons tape available.	2.99
3	△ 5	**AIR WOLF** *Encore*	Translated from the TV programme. You are a man with a mission flying a helicopter.	1.99
4	△ 7	**ZYBEX** *Zeppelin*	An excellent shoot-'em-up, worth more than its budget price. Good graphics	2.99
5	△ 8	**SPEED ACE** *Zeppelin*	Zeppelin's first release for the Atari. Good use of the split screen in this motorbike simulation.	2.99
6	▽ 3	**DAYLIGHT ROBBERY** *Atlantis*	From the same stable as Cops an' Robbers – a fun, budget-priced romp on the wrong side of the law.	1.99
7	▽ 1	**GRAND PRIX SIMULATOR** *Code Masters*	The ultimate in car simulators stays at the front of its field. This can be played again and again.	1.99
8	●	**LEAGUE CHALLENGE** *Altantis*	As the football season gets into full swing you can take the role of the manager of a series of teams.	1.99
9	●	**SHOOT 'EM UP** *Budgie*	Highest new entry this month from the company famed for Chuckie Egg. Well worth it for a simple blast 'em.	2.99
10	●	**BUBBLE TROUBLE** *Players*	Based in the kitchen sink, this drama has you avoiding the drain while collecting a dubious bounty of goods.	1.99
11	●	**PLATFORM PERFECTION** *US Gold*	A compilation of four oldish games originally released under the Datasoft label. Good value.	9.95
12	●	**QUARTET GOLD** *Red Rat*	Another compilation but this time from Manchester based Red Rat. Includes Space Wars, Dreadnought, Little Devil and Laser Hawk.	3.99
13	●	**SKY SKIPPER** *Parker*	An American game making its debut over here, Watch out for the review of this one in *Atari User*.	4.95
14	●	**ATARI SAFARI** *Illusions*	Yet another budget title, but like most for the Atari nice, clean and excellent value.	1.99
15	△ 20	**MATTA BLATTA** *Firebird*	Re-released by Firebird you can read our reviewers opinion of this one in this issue of *Atari User*.	1.99
16	▽ 4	**LEAPSTER** *Alternative*	Great if you enjoy jumping over cars and lorries while collecting items from open windows.	1.99
17	●	**TRANSMUTER** *Code Masters*	Scrolling shoot-'em-up which is one of the very rare games written by a girl, Maureen Copeland.	1.99
18	●	**TALLADEGA** *Top Ten*	If you love car games this is not the best of the bunch – budget quality with a price to match.	1.99
19	●	**MONKEY MAGIC** *Alternative*	Based on the TV programme Monkey – with you as the lesser deity who must succeed in his mission in ancient China.	1.99
20	●	**DIG DUG** *Atari*	Originally an arcade block buster, has been available on rom cartridge for some years.	12.99

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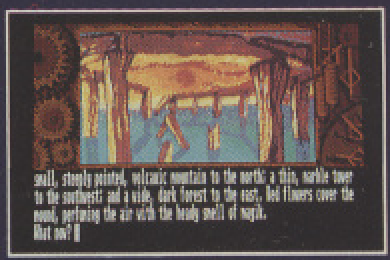
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